

RULE NO.: R161-16.01**NOTICE OF RULE ADOPTION****ADOPTION DATE: MAY 25, 2016**

By: Greg Meszaros, Director
Austin Water

The Director of the Austin Water has adopted the following rule. Notice of the proposed rule was posted on April 5, 2016. Public comment on the proposed rule was solicited in the April 5, 2016 notice. This notice is issued under Chapter 1-2 of the City Code. The adoption of a rule may be appealed to the City Manager in accordance with Section 1-2-10 of the City Code as explained below.

A copy of the complete text of the adopted rule is available for public inspection and copying at the following locations. Copies may be purchased at the following locations at a cost of ten cents per page:

Austin Water, located at 625 E. 10th Street, 3rd Floor Suite 300, Austin, Texas.
See Mr. Britt Jones; and

Office of the City Clerk, City Hall, located at 301 West 2nd Street, Austin, Texas.

EFFECTIVE DATE OF ADOPTED RULE

A rule adopted by this notice is effective on May 25, 2016.

TEXT OF ADOPTED RULE

The adopted rule contains no changes from the proposed rule.

R161-16.01: Revisions to the Standards Manual Series 500 Pipe and Appurtenances

- **511S-1** 25 mm (1") - 50 mm (2") Vented Air Release Valve Installation (Type 1) – Delete
- **511S-1BR** Reclaimed Water Connection 25 mm (1") or 50 mm (2") Reclaimed Water Automatic Air Release Valve – Delete
- **511S-2** Type II-76 mm (3") or Larger Vented Air/Vacuum Valve Installation – Delete
- **511S-3** Type III-76 mm (3") or Larger Vented Air/Vacuum Valve Installation – Delete
- **511S-3B** Type III-76 mm (3") or Larger Non-Vented Air/Vacuum Valve Installation – Delete
- **511S-5** Dual PRV Installation Guideline - Delete
- **511S-7** Typical Gate Valve 100 mm—600 mm (4"—24") – Delete
- **511S-8** Typical Butterfly Valve 900 mm (36") and Larger – Delete

- **511S-9A** Drain Valve Installation - Delete
- **511S-10** Debris Cap Installation - Delete
- **511-11** Valve Box Casting C-3 Lid – Delete
- **511S-11R** Reclaimed Water Connection Valve Box and Cover - Delete
- **511S-12** Valve Box Casting C-7 Lid – Delete
- **511S-13A** Water Valve Box Adjustment to Grade w/Full Depth Concrete – Delete
- **511S-13B** Water Valve Box Adjustment to Grade w/Concrete and H.M.A.C. – Delete
- **511S-13C** Water Valve Box Concrete Pad in Unpaved Area – Delete
- **511S-14** Valve Box Casting C-6 Paving Ring - Delete
- **511S-15** Valve Box Casting Base – Delete
- **511S-16** Valve Box Casting C-5A Collar – Delete
- **511S-17** Standard Fire Hydrant Installation - Delete
- **511S-17A** Fire Hydrant Installation on Deep Water Mains - Delete
- **511S-17B** Deep Main Fire Hydrant Installation w/90° Bend- Delete
- **511S-18** Fire Hydrant Installation With PRV - Delete
- **511S-19R** Reclaimed Water Connection 4" Non-Traffic Rated, Non-Freezing Blow-Off Valve – Delete
- **511-20** Automatic Flush Valve - Delete
- **511-AW-01** Typical Gate Valve 4" – 16" – New Detail and New Number
 - Combine 511S-7, 511-11, 511S-11R, 511S-12, 511-13A, B & C, 511S-14, 511S-15 and 511S-16 into one Standard
- **511-AW-02** Fire Hydrant – New Detail and New Number
 - Combine 511S-17, 511S-17A & B, 511S-18 into one Standard
- **511-AW-03** Drain Valve – New Detail and New Number
- **511-AW-04** Air Release and Air/Vacuum Valve – New Detail Number
 - Combine 511S-1, 511S-1BR, 511S-2, 511S-3 and 511S-3B into one Standard
- **511-AW-05** Automatic Flush Valve – New Detail and New Number
- **511-AW-06** 2" Non-Traffic Rated Reclaimed Blow-Off Valve – New Detail and New Number

The adopted rule contains no changes from the proposed rule. A copy of the complete text of the adopted rule is available for public inspection and copying at the following locations. Copies may be purchased at the following locations at a cost of ten cents per page:

Austin Water, located at 625 E. 10th Street, 3rd Floor Suite 300, Austin, Texas.
See Mr. Britt Jones; and

Office of the City Clerk, City Hall, located at 301 West 2nd Street, Austin, Texas

SUMMARY OF COMMENTS

The Austin Water did not receive comments regarding the rule adopted in this notice.

AUTHORITY FOR ADOPTION OF RULE

The authority and procedure for adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is provided in Chapter 1-2 of the City Code. The authority to regulate the installation of water and wastewater facilities is established in the Texas Local Government Code Section 552.001 and Title 15 of the City Code.

APPEAL OF ADOPTED RULE TO CITY MANAGER

A person may appeal the adoption of a rule to the City Manager. **AN APPEAL MUST BE FILED WITH THE CITY CLERK NOT LATER THAN THE 30TH DAY AFTER THE DATE THIS NOTICE OF RULE ADOPTION IS POSTED. THE POSTING DATE IS NOTED ON THE FIRST PAGE OF THIS NOTICE.** If the 30th day is a Saturday, Sunday, or official city holiday, an appeal may be filed on the next day which is not a Saturday, Sunday, or official city holiday.

An adopted rule may be appealed by filing a written statement with the City Clerk. A person who appeals a rule must (1) provide the person's name, mailing address, and telephone number; (2) identify the rule being appealed; and (3) include a statement of specific reasons why the rule should be modified or withdrawn.

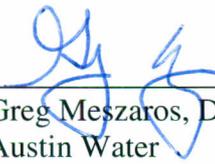
Notice that an appeal was filed and will be posted by the city clerk. A copy of the appeal will be provided to the City Council. An adopted rule will not be enforced pending the City Manager's decision. The City Manager may affirm, modify, or withdraw an adopted rule. If the City Manager does not act on an appeal on or before the 60th day after the date the notice of rule adoption is posted, the rule is withdrawn. Notice of the City Manager's decision on an appeal will be posted by the city clerk and provided to the City Council.

On or before the 16th day after the city clerk posts notice of the City Manager's decision, the City Manager may reconsider the decision on an appeal. Not later than the 31st day after giving written notice of an intent to reconsider, the City manager shall make a decision.

CERTIFICATION BY CITY ATTORNEY

By signing this Notice of Rule Adoption R161-16.01, the City Attorney certifies that the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

REVIEWED AND APPROVED



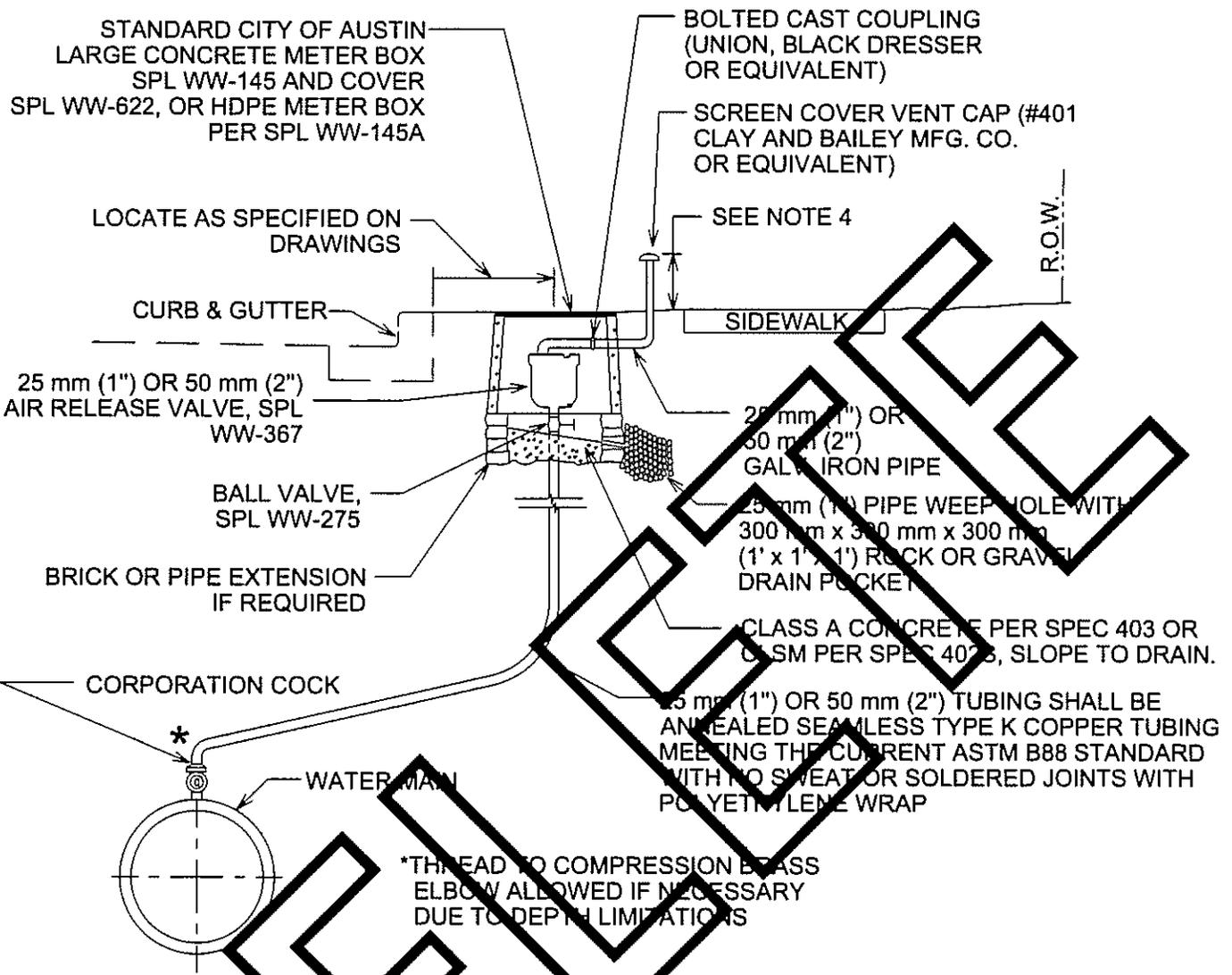
Greg Meszaros, Director
Austin Water

Date: 5/13/16



Anne L. Morgan
City Attorney

Date: 5/23/16



NOTES:

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND D.I. SUPPORT PIPE SHALL BE PAINTED PER SPL WW-22, POTABLE WATER PIPE - SAFETY BLUE.
2. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH MINIMUM CLEARANCE OF 450mm (18") FROM ANY OBSTACLE.
3. CONCRETE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED BY PRESS-SEAL GASKET CORP. PSX RESILIENT CONNECTOR MEETING ASTM C923 OR APPROVED EQUAL.
4. IN UNDEVELOPED AREAS, THE AIR RELEASE SHALL BE .6m (2') MIN. IN HEIGHT SUPPORTED BY A 100mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED BLUE (SEE NOTE ONE) AND FILLED WITH CONCRETE. (STEEL PIPE SHALL BE 1.8m (6') LONG, BURIED IN CLASS A CONCRETE OR CLSM 0.9m (3') BELOW FINAL GRADE AND EXTENDING, 0.9m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR BELINEATOR OR EQUIVALENT 1.8m (6'), BLUE, SHALL BE PLACED WITHIN 0.9m (3') OF VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AWJ. IN DEVELOPED AREAS, THE AIR RELEASE SHALL BE 200mm (8") TO 300mm (12") IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY OR OTHER PEDESTRIAN TRAFFIC.
5. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE WATER MAIN. AIR VALVE PIPING, FROM THE WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>25mm (1") - 50 mm (2") VENTED AIR RELEASE VALVE INSTALLATION (TYPE 1)</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-1</p>

LOCATE AS SPECIFIED ON DRAWINGS

RECTANGULAR METER BOX AND LID, SEE SPL WW-145A, FOR RECLAIMED WATER COMMERCIAL METER BOX

CURB AND GUTTER

25 mm (1") OR 50 mm (2") COMBINATION AIR RELEASE VALVE WITH GOOSENECK, SEE SPL WW-462B

BALL VALVE, SEE SPL WW-275

BRICK OR PIPE EXTENSION (IF REQUIRED)

25 mm (1") PIPE WEEP HOLE WITH 300 mm X 300 mm X 300 mm (1' X 1' X 1') ROCK OR GRAVEL DRAIN POCKET

CLASS A CONCRETE PER SPEC 403 OR CLSM PER SPEC 402S, SLOPE TO DRAIN.

CORPORATION COCK

25 mm (1") OR 50 mm (2") PIPING SHALL BE ANNEALED SEAMLESS TYPE K COPPER TUBING MEETING THE CURRENT ASTM B88 STANDARD WITH NO SWEAT OR SOLDERED JOINTS WITH POLYETHYLENE WRAP PER SPL-27D, FOR RECLAIMED WATER.

RECLAIMED WATER MAIN

* THREAD TO COMPRESSION BRASS ELBOW ALLOWED IF NECESSARY DUE TO DEPTH LIMITATIONS

NOTES:

1. LID AND METER BOX TO BE RECTANGULAR WITH "RECLAIMED WATER" CAST INTO IT.
2. ALL RECLAIMED WATER PIPING AND APPURTENANCES TO BE MANUFACTURED PURPLE, WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D OR PAINTED PURPLE PER SPL WW-30.
3. IF INSTALLED IN AN UNDEVELOPED AREA, INSTALL A 100 mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED PURPLE (SEE NOTE 2) AND FILLED WITH CONCRETE (STEEL PIPE SHALL BE 1.8 m (6') LONG, BURIED IN CLASS A CONCRETE OR CLSM 0.9 m (3') BELOW FINAL GRADE AND EXTENDING 0.9 m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR DELINEATOR OR EQUIVALENT 1.8 m (6'), PURPLE, SHALL BE PLACED WITHIN 0.9 m (3') OF METER BOX ON THE VEHICULAR ACCESS SIDE OF METER BOX OR AS DIRECTED BY AWU.
4. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE RECLAIMED WATER MAIN. AIR VALVE PIPING, FROM THE RECLAIMED WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.
5. AIR VALVE SHALL BE INSTALLED IN THE RIGHT-OF-WAY BUT NOT IN A DRIVEWAY, SIDEWALK OR AREAS OF VEHICULAR TRAFFIC.

CITY OF AUSTIN
AUSTIN WATER UTILITY

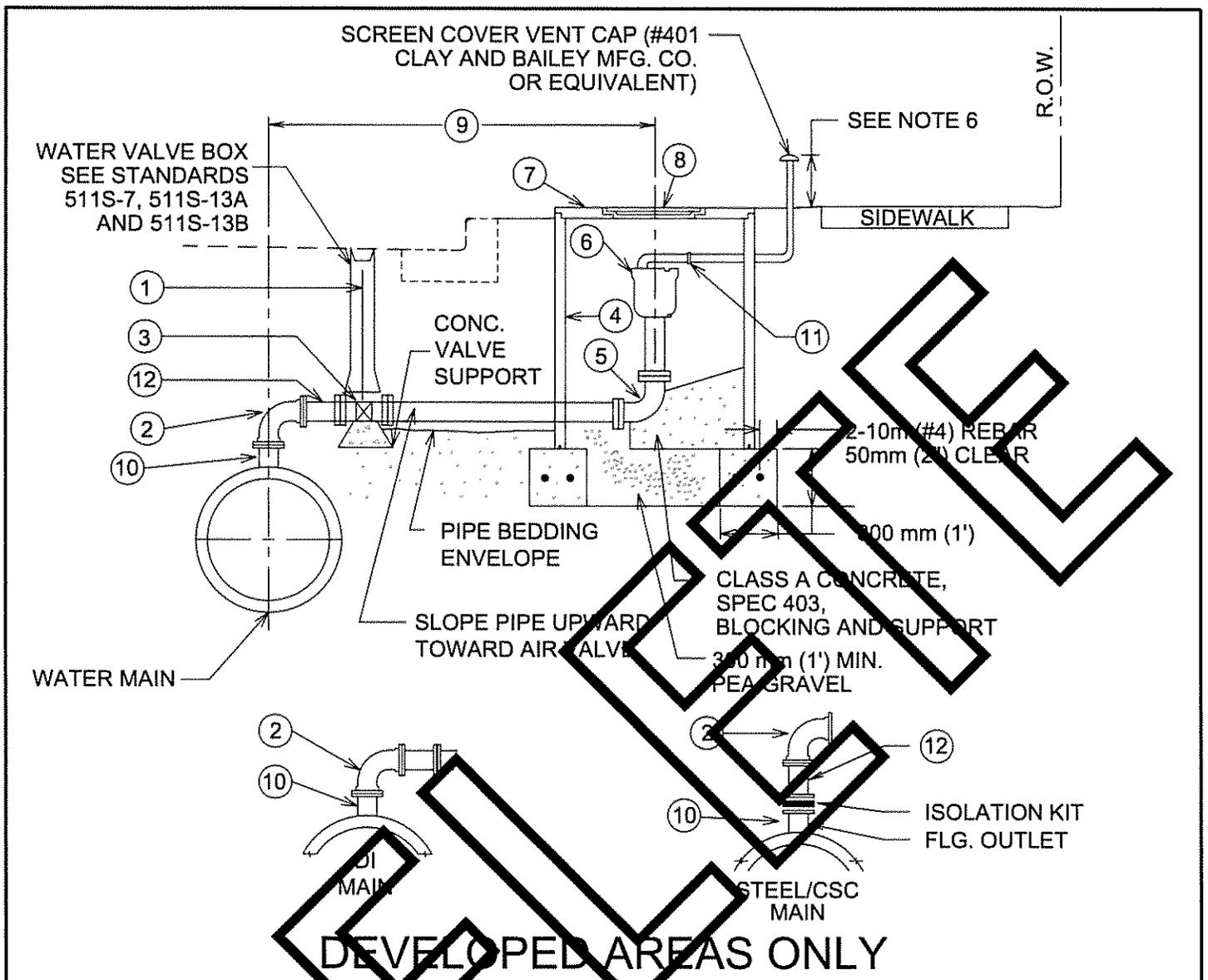
RECLAIMED WATER CONNECTION
25 mm (1") OR 50 mm (2") RECLAIMED
WATER AUTOMATIC AIR RELEASE VALVE

RECORD COPY SIGNED BY
KATHI L FLOWERS

8/31/11

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.
511S-1BR



- | | |
|---|--|
| <p>① VALVE STEM EXTENSION</p> <p>② 90° BEND WITH FACTORY RESTRAINED JOINT BELL ENDS SPL WW-27F</p> <p>③ GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE MAIN.</p> <p>④ CLASS III R.C.P. VAULT 1.524 m (60") MIN. I.D.</p> <p>⑤ 90° BEND (FLG x FLG)</p> <p>⑥ COMBINATION AIR RELEASE VALVE WITH GOOSENECK PER SPL WW-367 OR WW-462A</p> <p>⑦ REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING)</p> | <p>⑧ C.O.A. RING AND 813 mm (32") COVER. SEE STD. DETAIL 503S-6W (MODIFY LETTERING TO WATER)</p> <p>⑨ PER PLAN DIMENSION, OR AS DETERMINED BY LICENSED ENGINEER OR AUSTIN WATER UTILITY.</p> <p>⑩ FOR STEEL/CSC MAIN: WELDED-ON FLANGED OUTLET WITH ISOLATION KIT AND FLG x FACTORY RESTRAINED SPIGOT END.
OR
FOR DI MAIN: WELDED-ON OUTLET WITH FACTORY RESTRAINED JOINT SPIGOT END.</p> <p>⑪ BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUIVALENT)</p> <p>⑫ PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.</p> |
|---|--|

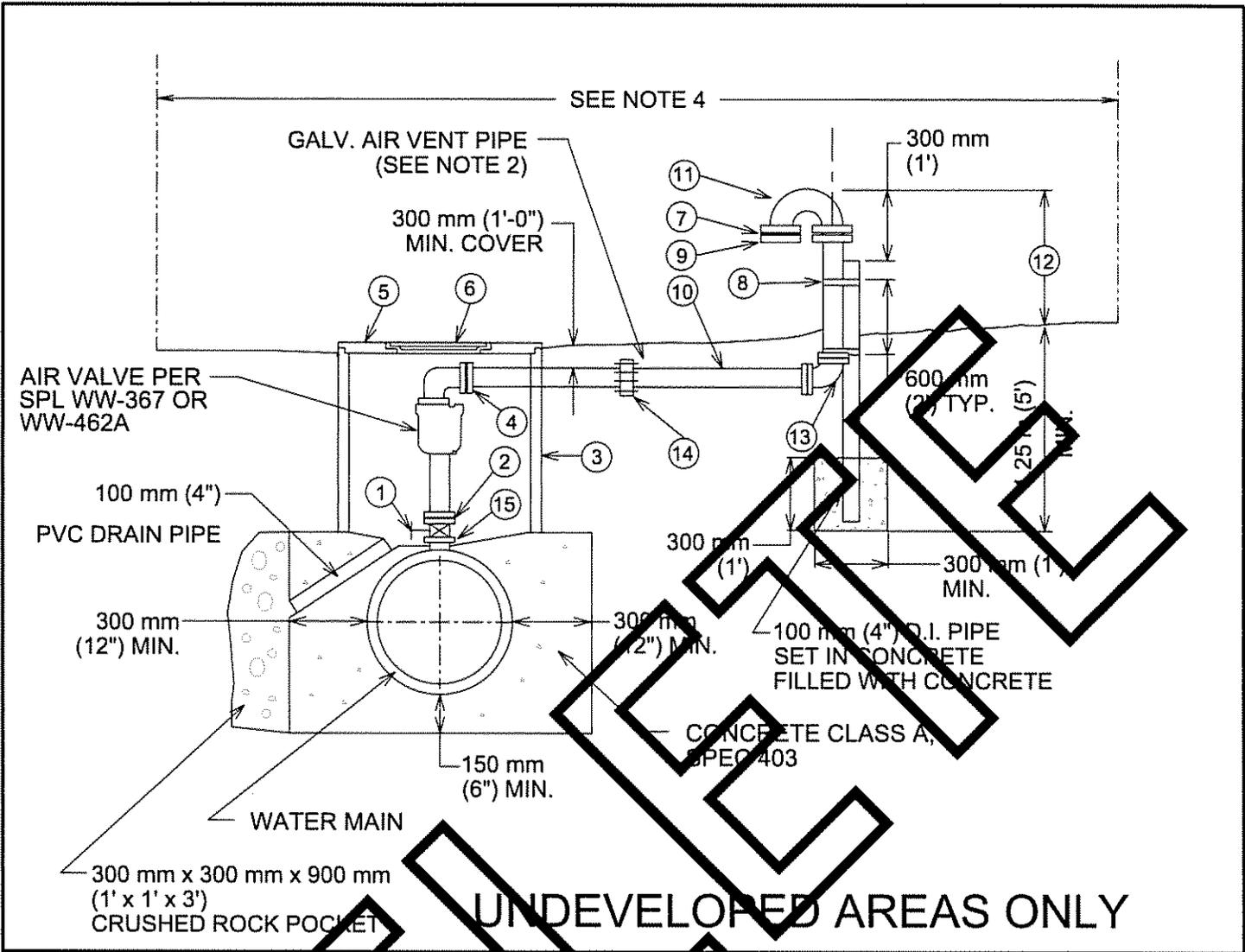
CITY OF AUSTIN AUSTIN WATER UTILITY	TYPE II-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-2 1 OF 2

NOTES:

1. ON 250 mm (10") AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 150 mm (6") AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO THE RIGHT-OF-WAY LINE.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED W/LINKSEAL LS 300 OR APPROVED EQUAL.
5. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
6. THE AIR RELEASE SHALL BE 200mm (8") TO 300mm (12") IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	VAULT DIA. (MIN.)
76 mm (3")	76 mm (3")	76 mm (3")	1.524 m (5')
102 mm (4")	102 mm (4")	102 mm (4")	1.829 m (6')
152 mm (6")	152 mm (6")	152 mm (6")	1.829 m (6')
203 mm (8")	203 mm (8")	203 mm (8")	1.829 m (6')
254 mm (10")	254 mm (10")	254 mm (10")	2.134 m (7')
305 mm (12")	305 mm (12")	305 mm (12")	2.134 m (7')

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPE II-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-2 2 OF 2



UNDEVELOPED AREAS ONLY

- ① GATE VALVE WITH HAND WHEEL (FLG X FLG OR APPROVED EQUIVALENT)
- ② FLANGE CONNECTION
- ③ CLASS III R.C.P. VAULT 1.52 m (60") MIN. I.D. SEE SCHEDULE ON PAGE 2
- ④ FLG CONNECTION OR APPROVED EQUIVALENT
- ⑤ REINFORCED PRECAST CONCRETE LID
- ⑥ C.O.A. RING AND 813 mm (32") COVER PER STD. DETAIL 503S6W (MODIFY LETTERING TO WATER)
- ⑦ NO. 16 MESH BRASS CLOTH
- ⑧ 6 mm x 25 mm (1/4" x 1") GALV. STRAPS DRILLED TO 100 mm (4") D.I. PIPE FILLED WITH CONCRETE (SEE NOTE 7)
- ⑨ COMPANION FLANGE (SEE NOTE 5)
- ⑩ AIR VENT PIPE, 3"-GALVANIZED IRON, 4" AND LARGER-D.I. ONLY
- ⑪ RETURN BEND (FLG x FLG)
- ⑫ 1.25m (4') MIN. (UNDEV. AREAS) 200mm (8") TO 300mm (12") (DEV. AREAS)
- ⑬ 90° BEND (FLG x FLG)
- ⑭ BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUIVALENT)
- ⑮ FOR D.I. MAIN: WELDED-ON FLANGED OUTLET.
OR
FOR STEEL/CSC MAIN: WELDED-ON FLANGED OUTLET WITH FLANGE ISOLATION KIT BETWEEN WELDED -ON OUTLET AND VALVE

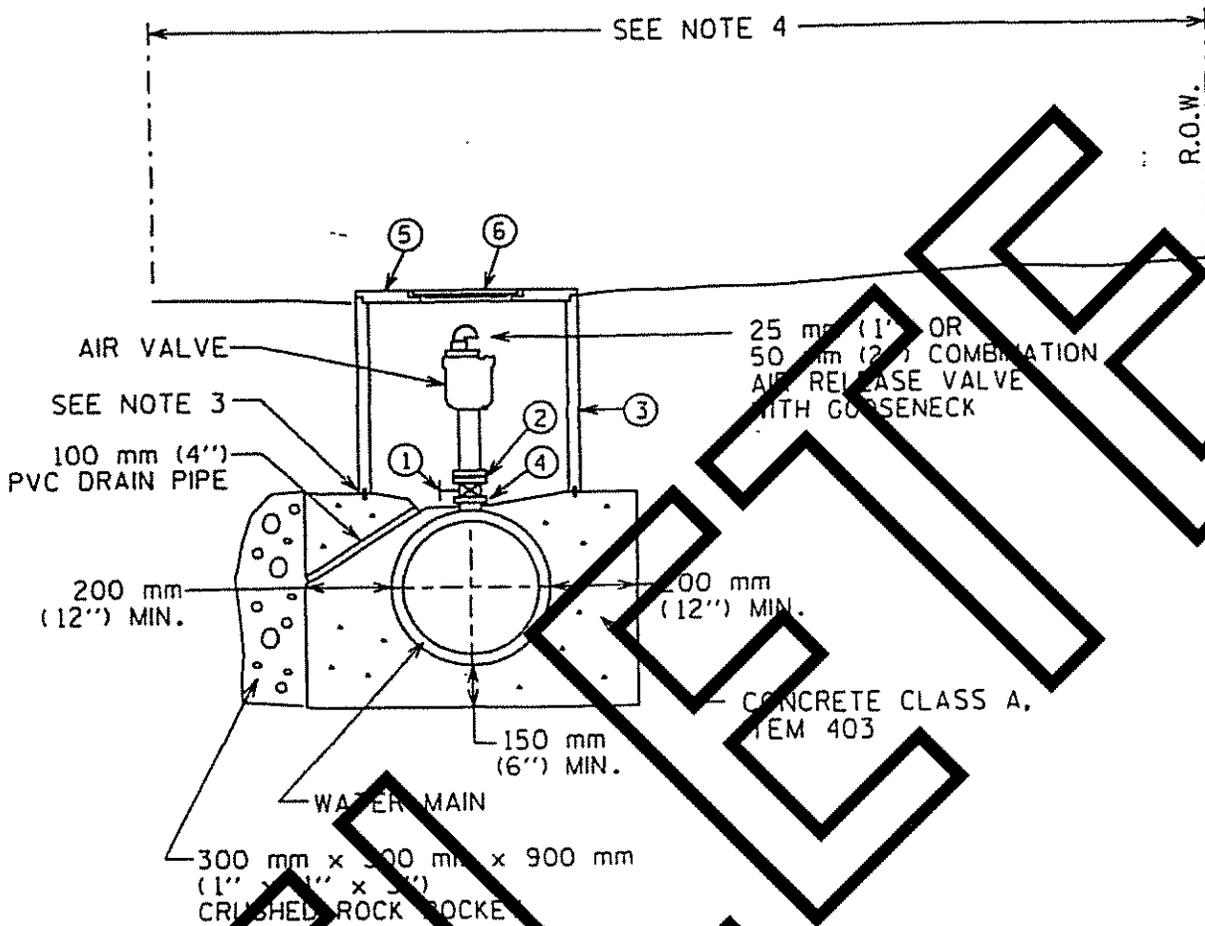
CITY OF AUSTIN AUSTIN WATER UTILITY	TYPE III-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-3 1 OF 2

NOTES:

1. ON 250 mm (10") AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 150 mm (6") AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. THIS DETAIL TO BE USED IN UNPAVED AREAS ONLY. ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED W/LINKSEAL LS 300 OR APPROVED EQUAL.
5. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
6. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
7. IN UNDEVELOPED AREAS, THE AIR RELEASE SHALL BE 1.25m (4') MIN. IN HEIGHT SUPPORTED BY A 100mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED BLUE (SEE NOTE TWO) AND FILLED WITH CONCRETE (STEEL PIPE SHALL BE 1.8m (6') LONG, BURIED IN CLASS A CONCRETE OF CLSM 0.9m (3') BELOW FINAL GRADE AND EXTENDING 0.9m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR DELINEATOR OR EQUIVALENT, 1.8m (6'), BLUE, SHALL BE PLACED WITHIN 0.9m (3') OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AWU.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	VAULT DIA. (MIN.)
76 mm (3")	76 mm (3")	76 mm (3")	1.524 m (5')
102 mm (4")	102 mm (4")	102 mm (4")	1.829 m (6')
152 mm (6")	152 mm (6")	152 mm (6")	1.829 m (6')
203 mm (8")	203 mm (8")	203 mm (8")	1.829 m (6')
254 mm (10")	254 mm (10")	254 mm (10")	2.134 m (7')
305 mm (12")	305 mm (12")	305 mm (12")	2.134 m (7')

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPE III-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-3 2 OF 2



- ① LAY DOWN GATE VALVE WITH HAND WHEEL
- ② INSULATED FLANGE CONNECTION
- ③ CLASS III R.C.P. MANHOLE 1.524 m (60") MIN. I.D.
- ④ FLANGED OUTLET PER ANSI B 16.1
- ⑤ REINFORCED PRECAST CONCRETE LID
- ⑥ C.P.A. RING AND 813 mm (32") COVER

CITY OF AUSTIN
WATER AND WASTEWATER UTILITY

TYPE III-76 mm (3") OR LARGER NON-VENTED AIR/VACUUM VALVE INSTALLATION

STANDARD NO.

Kathi J. Powers

11/17/00
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

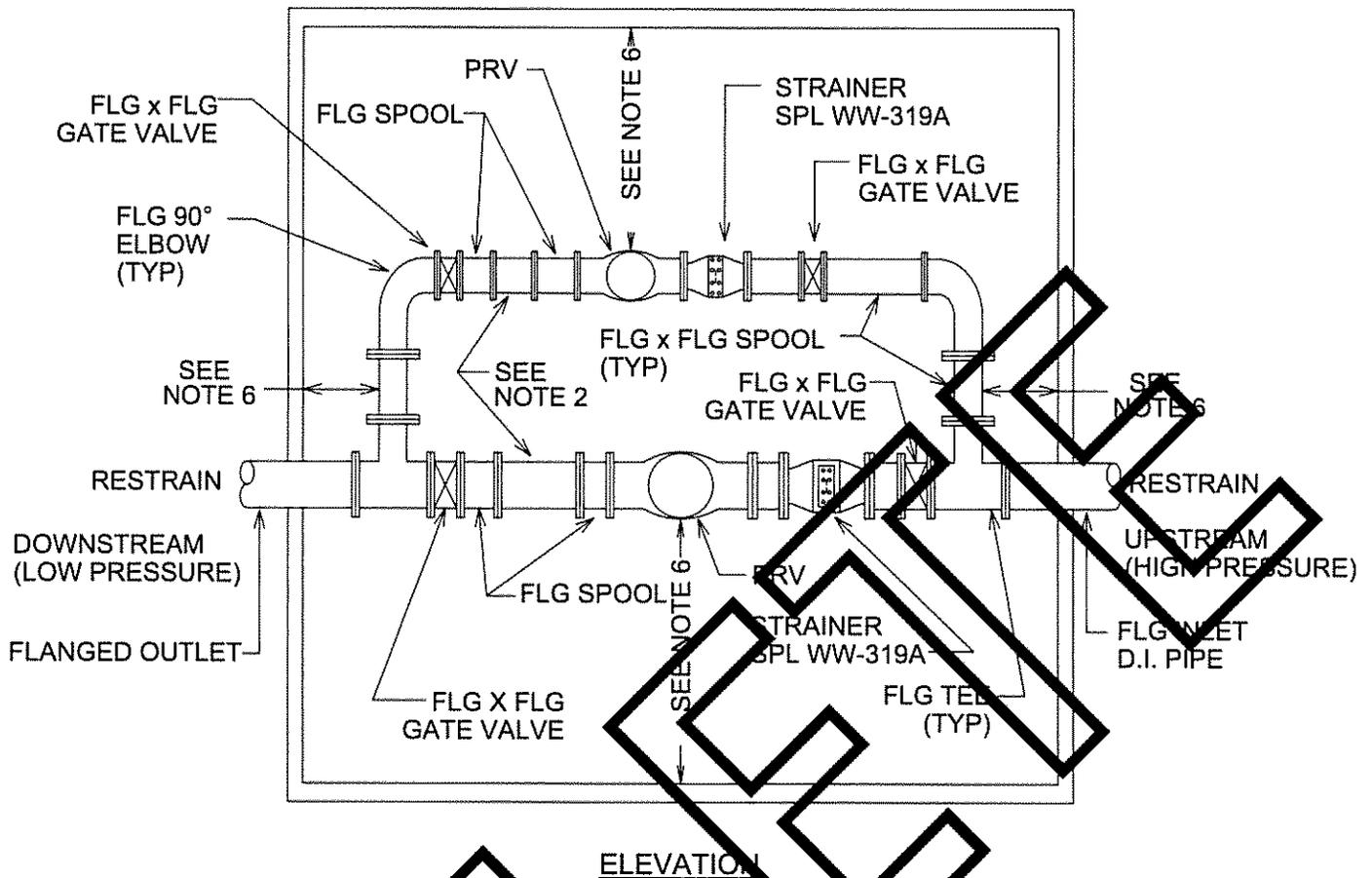
511S-3B
1 OF 2

NOTES:

1. ON 250 mm (10") AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE MANHOLE INTO THE SIDE OF THE LARGER VENT PIPE THAT GOES ABOVE GROUND.
2. AIR VENT PIPE 150 mm (6") AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE; FLANGE FITTINGS ORDERED SPECIAL WITH SHOP APPLIED KOPPER INERTOL RUST INHIBITIVE PRIMER 621, OR EQUAL, IN LIEU OF COAL TAR. EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED WITH RUST-OLEUM ACRYLIC 5225 (SAFETY BLUE), OR EQUAL, PER COATING MANUFACTURER'S INSTRUCTIONS PRIOR TO INSTALLATION.
3. SEALANT SHALL BE 32 mm (1 1/4") FLEXIBLE BUTYL RESIN SEALANT CS-102 AS MANUFACTURED BY CONCRETE SEALANTS, INC. OR EQUAL.
4. AIR VENT PIPE INSTALLATION SHALL BE LOCATED WITHIN CASIMENT.
5. CONCRETE MANHOLE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED BY PRESSING SEAL GASKET CORP. PSX RESILIENT CONNECTOR MEETING ASTM C923 OR APPROVED EQUAL.
6. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
7. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LIE.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	M.H. DIA. (MIN.)
76 mm (3")	76 mm (3")	76 mm (3")	1.524 m (5')
102 mm (4")	102 mm (4")	102 mm (4")	1.829 m (6')
152 mm (6")	152 mm (6")	152 mm (6")	1.829 m (6')
203 mm (8")	203 mm (8")	203 mm (8")	1.829 m (6')
254 mm (10")	254 mm (10")	254 mm (10")	2.134 m (7')
305 mm (12")	305 mm (12")	305 mm (12")	2.134 m (7')

CITY OF AUSTIN WATER AND WASTEWATER UTILITY	TYPE III-76 mm (3") OR LARGER NON-VENTED AIR/VACUUM VALVE INSTALLATION
<i>Katti Flowers</i> _____ ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
	STANDARD NO. 511S-3B 2 OF 2



NOTES:

1. GATE VALVES TO BE WHEEL OPERATED, WHEEL ON TOP.
2. SLEEVES ARE ALLOWED ON DOWNSTREAM (LOW PRESSURE) SIDE ONLY, IF NEEDED.
3. ALL UPSTREAM OR HIGH PRESSURE MATERIALS TO BE FLANGED.
4. ALL NON-FLANGED PIPE TO BE INSTALLED WITH RESTRAINT PER SPL WW-27A.
5. ALL VALVES TO HAVE CONCRETE SUPPORT BLOCKS.
6. DIMENSIONS SHALL HAVE A MINIMUM 450 mm (18") CLEARANCE.
7. ALL PIPE IN PRV/BYPASS INSTALLATION TO BE THREADED BRASS OR FLANGED D.I. PIPE.
8. PRESSURE REDUCER VALVE SHALL BE IN ACCORDANCE WITH STANDARD PRODUCTS LIST NO. WW-319.
9. THE DESIGN ENGINEER SHALL PROVIDE THE ELEVATION ABOVE MEAN SEA LEVEL AND THE PRESSURE ON THE LOW PRESSURE SIDE OF THE PRV ON THE PLANS SUBMITTED FOR COA/WU REVIEW.
10. PRV VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREAS.
11. INSTALL STRAINER WITH COVER ORIENTED ON TOP.
12. VAULT LID PER SPL WW-614
13. RESTRAINED D.I. PIPE AND FITTINGS REQUIRED, EACH WAY, TO ALLOW REMOVAL OF ALL VALVES AND FITTINGS IN VAULT WITHOUT ADDITIONAL SUPPORT.

***SEE DETAILED ENGINEERING DESIGN IN PLANS**

CITY OF AUSTIN AUSTIN WATER UTILITY		DUAL PRV INSTALLATION GUIDELINE*	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-5

NOTES:

1. WELD SOCKET 64 mm X 51 mm (2 1/2" X 2") DEEP TO 25 mm (1") SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT, SCH. 80 FOR LENGTHS OVER 3 m (10').
2. CITY OF AUSTIN STANDARD VALVE CASTING RING C-6 & LID C-7 OR C-5A LID IN UNPAVED AREAS. SEE VALVE CASTING DETAIL.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 51 mm (2") LONG WELDED TO TOP OF ROD.

600 mm (2'-0") MAX.

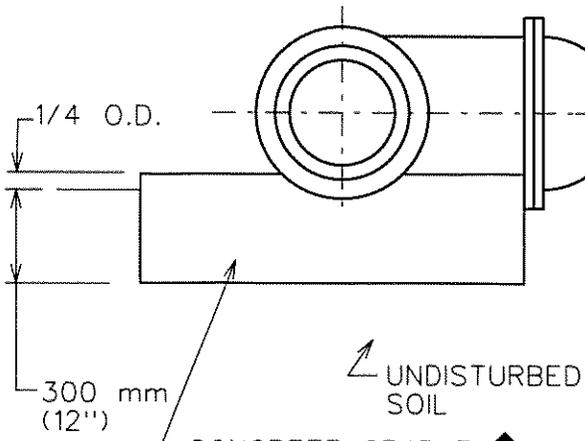
SEE DETAIL 511S-13A & 511S-13B
 VALVE CASTING RING C-3 & LID C-6 LID IN UNPAVED STREETS

150 mm (6") IRON PIPE WITH BELL OR COLLAR CENTERED ON CASTING

STEM EXTENSION (SEE NOTE 4)

COMPACT THE FILL AROUND 150 mm (6") PIPE AND CASTING

LAYDOWN VALVE SHALL ONLY BE USED WHEN CALLED OUT ON THE DRAWINGS.



GREASE CAP
 HORIZONTAL VALVE
 TO BE USED ONLY WHEN SPECIFIED BY DESIGN ENGINEER

SEE VALVE CASTING DETAILS

CITY OF AUSTIN STANDARD VALVE CASTING RING C-6 (511S-14) & C-7 (511S-12)

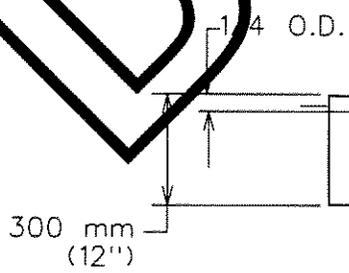
150 mm (6") IRON PIPE WITH BELL OR COLLAR CENTERED ON CASTING

STEM EXTENSION (SEE NOTE 4)

COMPACT THE FILL AROUND 150 mm (6") PIPE AND CASTING

NOTES (CONT.):

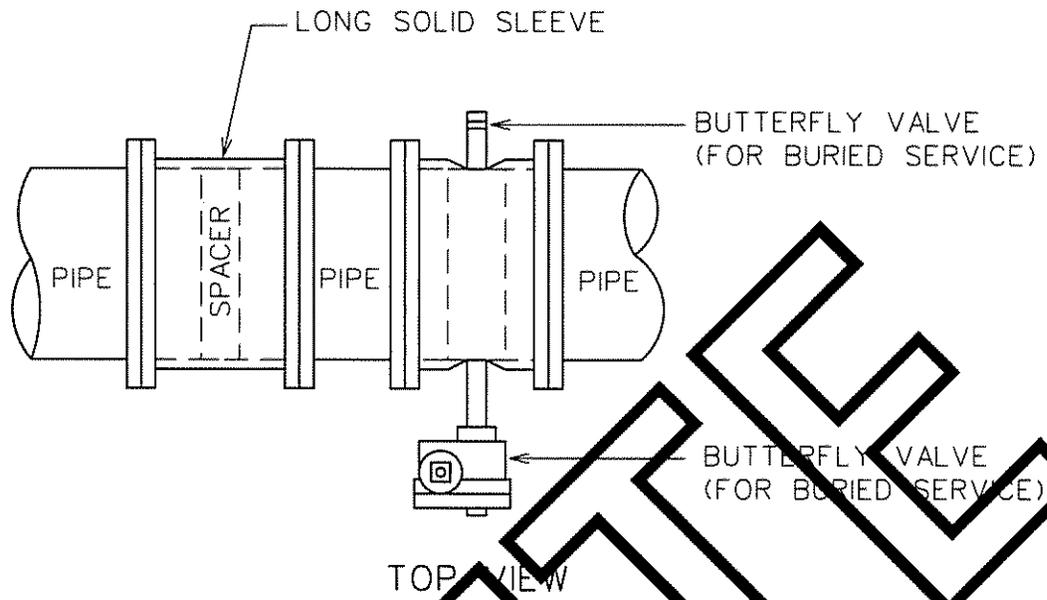
4. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUTS BETWEEN 450 AND 600 mm (18 AND 24") FROM FINISHED GRADE.



CONCRETE CRADLE. MIN. 13.8 mPa (2000 P.S.I.), CLASS B. USE ON 300 mm (12") VALVES & LARGER

UNDISTURBED SOIL
VERTICAL VALVE

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPICAL GATE VALVE 100 mm-600 mm (4"-24")	
RECORD COPY SIGNED BY KATHI L. FLOWERS	3/9/04 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-7



750 mm (2'-6") MIN.
900 mm (3'-0") MAX.

44 mm
(1 3/4")

NOTE: AT TOP OF VALVE EXTENSION
ROD SHALL BE 50 mm (2") SQUARE,
300 mm (1 1/2") LONG, WELDED TO
THE TOP OF THE ROD
150 mm (6") IRON PIPE CASTING
WITH BELL OR COLLAR CENTERED
ON CASTING

END VIEW

NOTES:

1. WELD SOCKET 66 mm X 31 mm (2 5/8" X 1 1/4") TO 28 mm (1 1/8") SOLID ROUND STEM EXTENSION.
2. SEE CITY OF AUSTIN STANDARDS ON VALVE BOX CASTING PAVING RING C-6, STANDARD NO. 511S-14 AND C-7 LID, STANDARD NO. 511S-12 OR C-3 LID, STANDARD NO. 511-11 IN UNPAVED AREAS. ALSO, REFER TO STANDARDS 511S-13A AND 511S-13B ON WATER VALVE BOX ADJUSTMENT.

CITY OF AUSTIN
WATER AND WASTEWATER UTILITY

TYPICAL BUTTERFLY VALVE
900 mm (36") AND LARGER

RECORD COPY SIGNED
BY KATHI L. FLOWERS

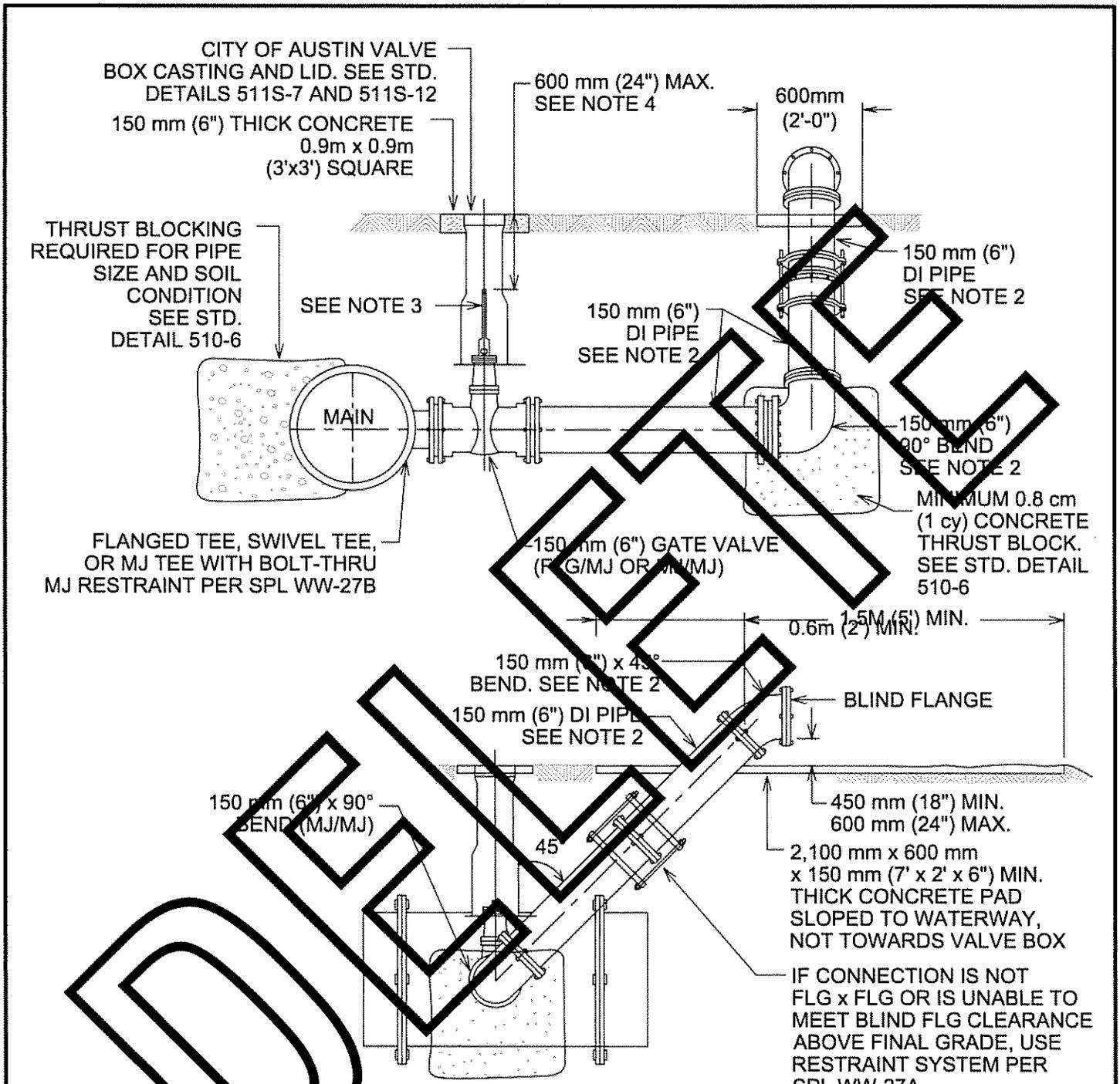
9/23/02

ADOPTED

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.

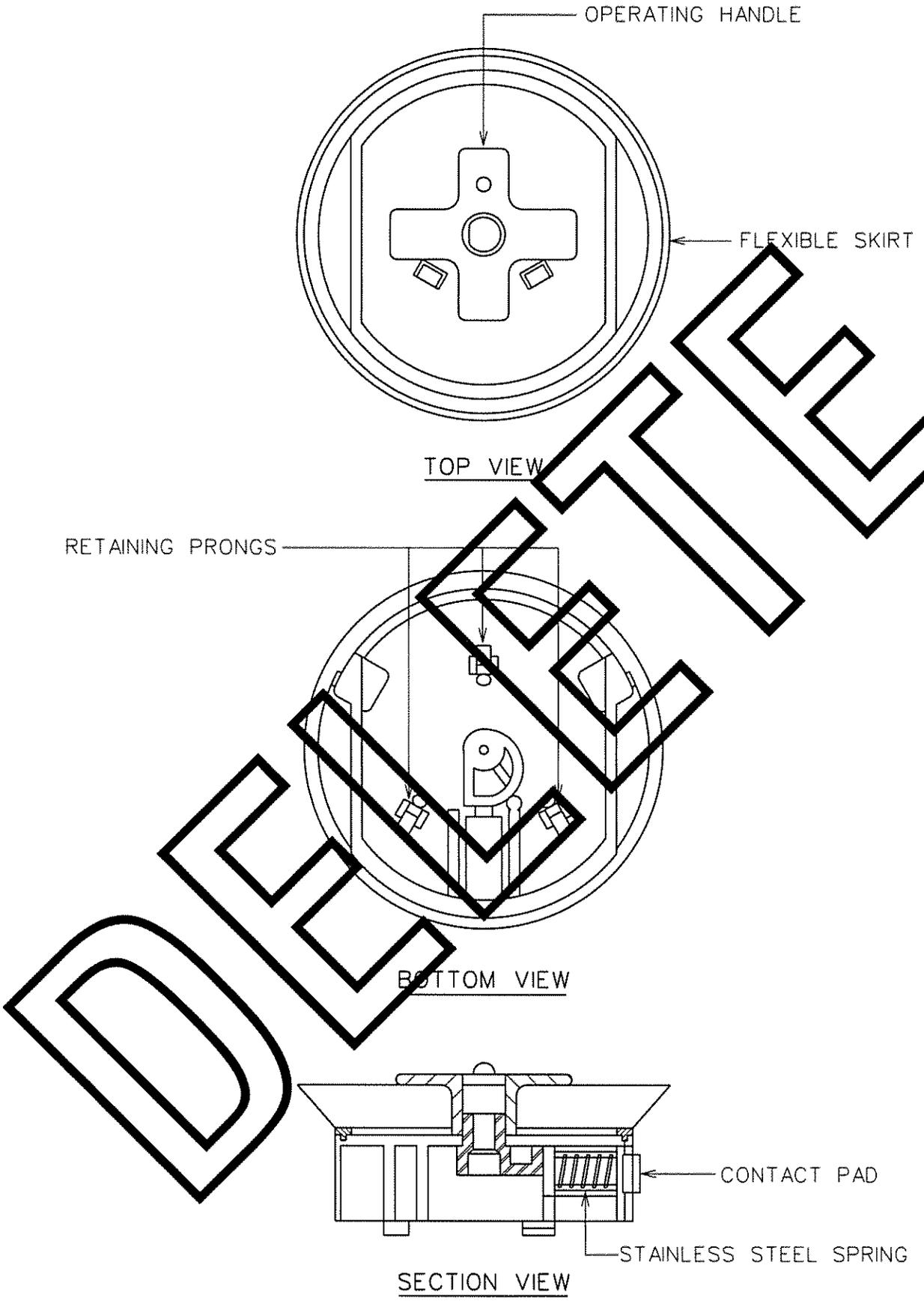
511S-8



NOTES:

1. WRAP 8 MIL POLY FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
2. PROVIDE RESTRAINED JOINTS FOR ALL JOINTS PER SPL WW-27A. FLG X FLG JOINTS ARE ACCEPTABLE FROM 90° BEND TO BLIND FLANGE.
3. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10').
4. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED .9m (3') DEEP FROM FINISHED GRADE TO VALVE NUT. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE NUT IS BETWEEN 450mm AND 600mm (18" AND 24") FROM FINISHED GRADE.
5. ABOVE-GROUND EXPOSED PIPE SURFACES SHALL BE PAINTED PER SPL WW-3C, POTABLE WATER PIPE SHALL BE SAFETY BLUE.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>DRAIN VALVE INSTALLATION</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-9A</p>



CITY OF AUSTIN
WATER AND WASTEWATER UTILITY

DEBRIS CAP INSTALLATION

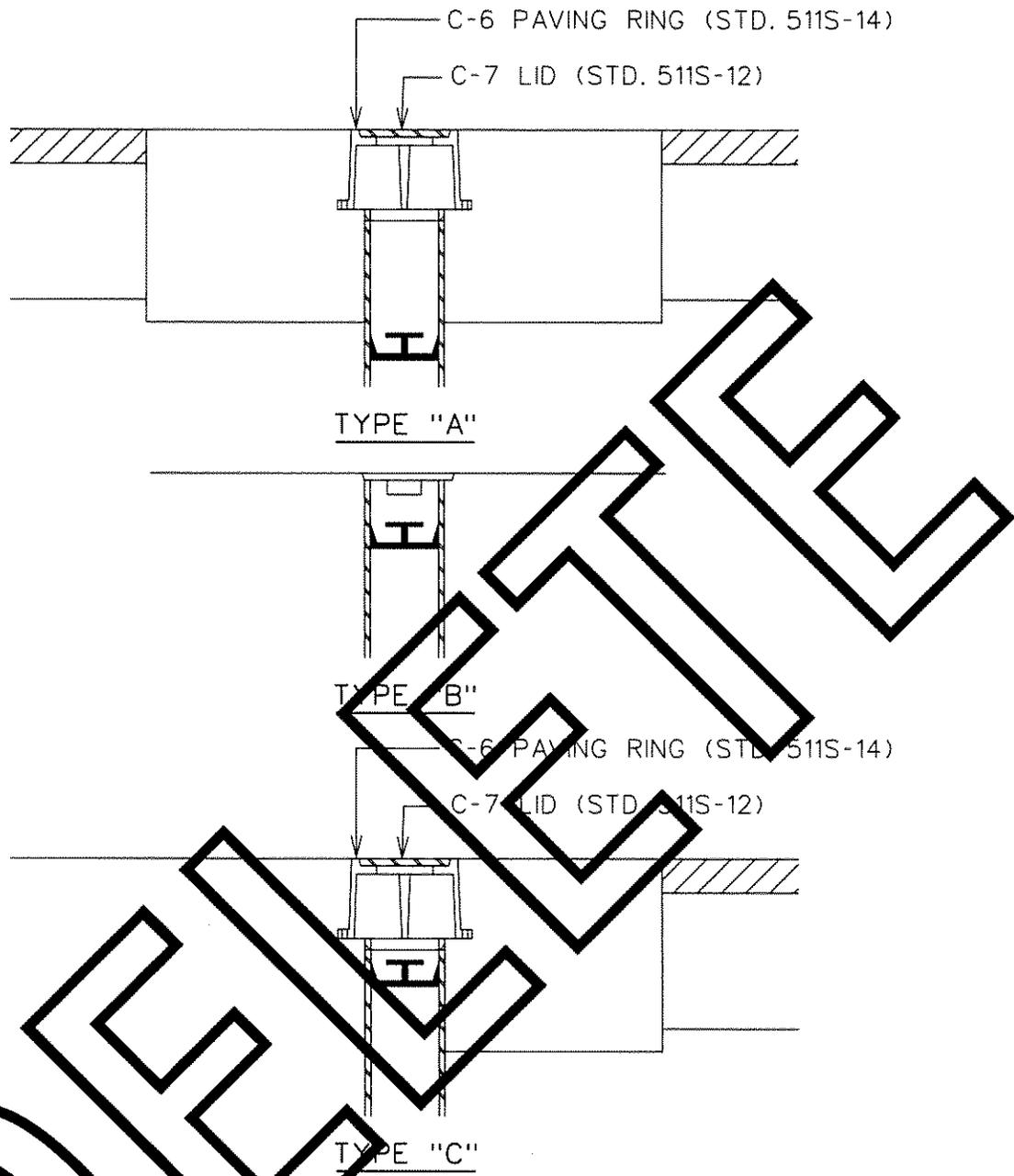
RECORD COPY SIGNED
BY KATHI L. FLOWERS

12/23/02

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.
511S-10
1 OF 2

ADOPTED

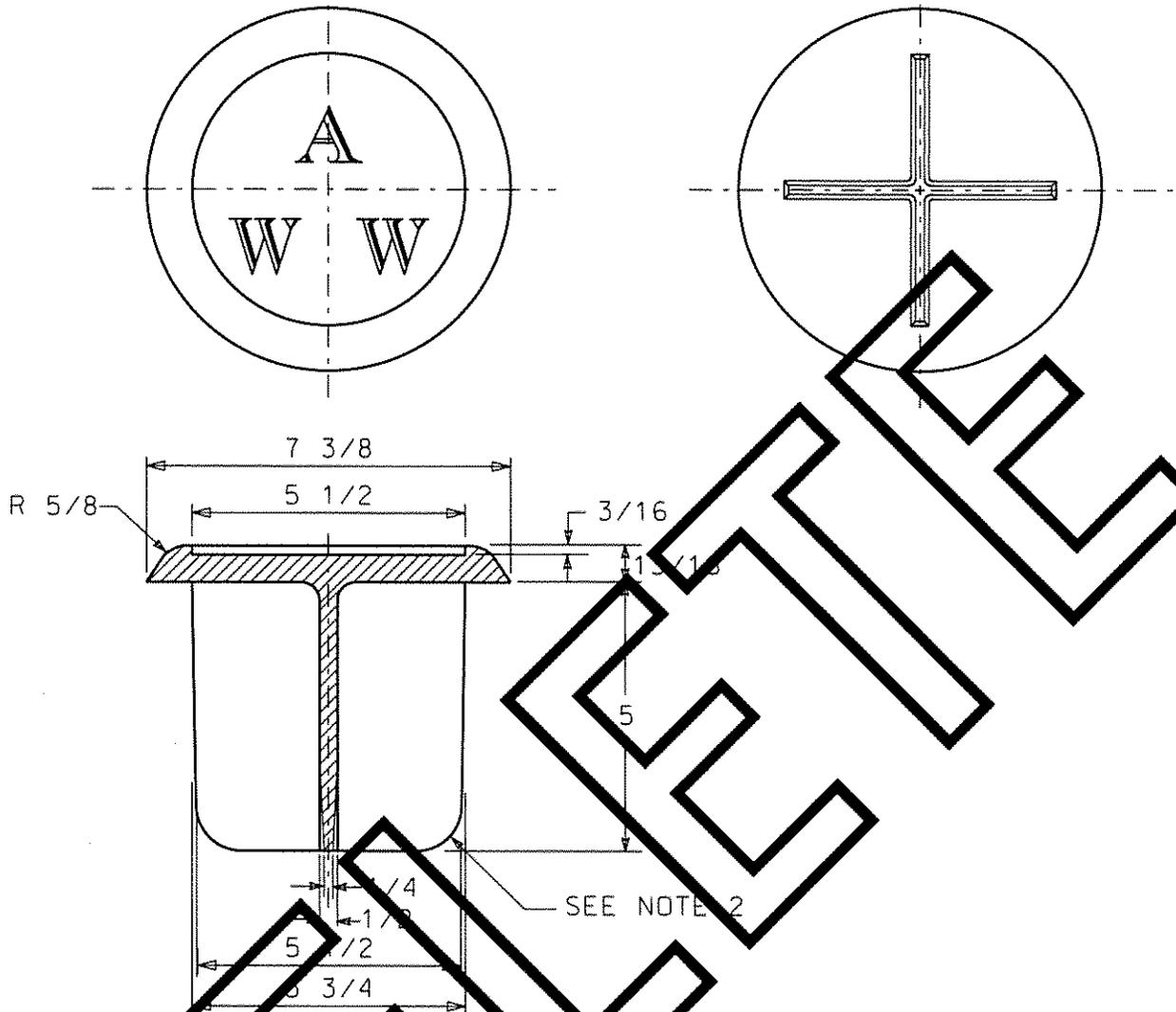


NOTES:

1. DEBRIS CAP SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATION.
2. FLEXIBLE SKIRT SHALL BE TRIMMED TO PROVIDE A SMOOTH CONTACT WITH THE INTERIOR DIAMETER OF THE PIPE.
3. THE DEBRIS CAP SHALL BE MANUFACTURED BY SW SERVICES, INC., PHOENIX, ARIZONA OR EQUAL.
4. THE DEBRIS CAP SHALL BE COMPRISED OF A HOLLOW MEMBER HAVING A CYLINDRICAL OUTER SURFACE, A CLOSURE FOR ONE END AND THREE POINT RESILIENT CONTACT PADS PROJECTING FROM THE OUTER SURFACE. THE CAP SHALL HAVE A FLEXIBLE SKIRT PROVIDING AN OUTWARD SEAL PREVENTING DEBRIS FROM GETTING PAST THE CAP. THE CAP MUST WITHSTAND, WITHOUT SLIPPAGE, A MINIMUM VERTICAL FORCE OF 23 kg (50 lbs), AT A LOADING RATE OF 25 mm (1.0 in) PER MINUTE. THE CAP SHALL BE MOLDED USING GENERAL ELECTRIC ABS *HIM 4500. THE CAP SHALL HAVE RETAINING PRONGS TO RETAIN A STANDRAD LOCATION COIL.

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		DEBRIS CAP INSTALLATION	
<i>RECORD COPY SIGNED</i> <i>BY KATHI L. FLOWERS</i>	12/23/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-10 2 OF 2

REV. DATE: 2-10-97 DESCRIPTION: STANDARD MANUAL

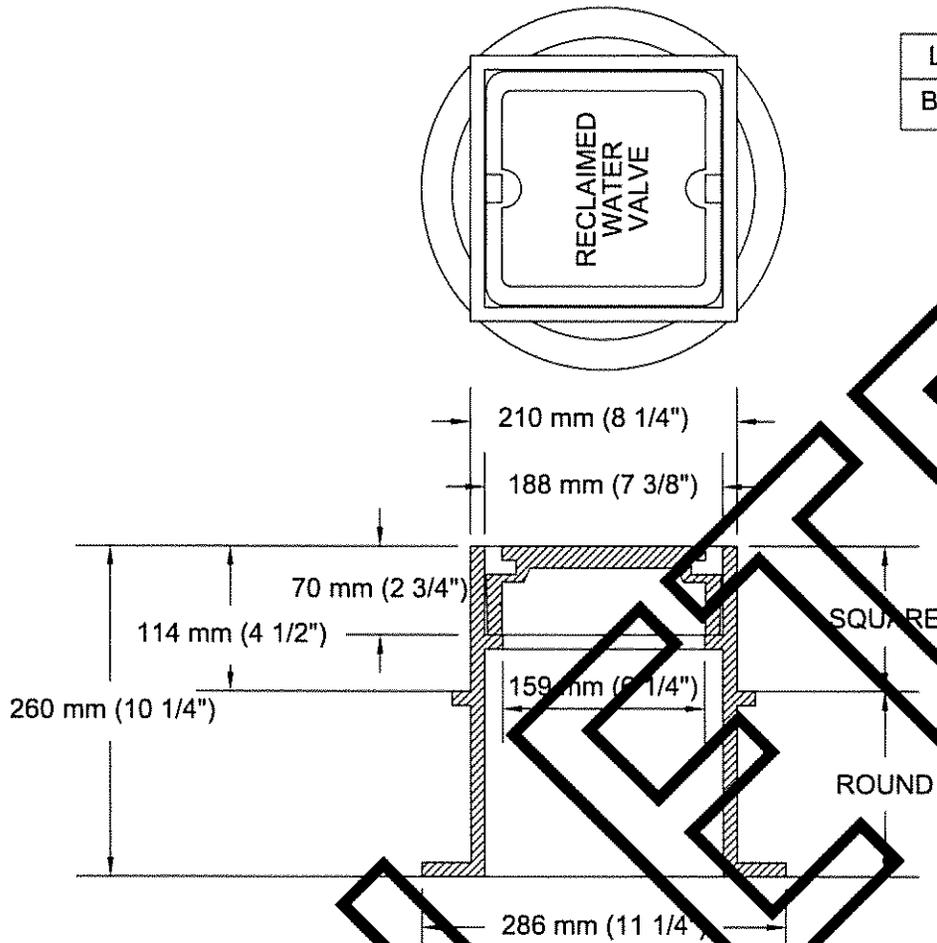


NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. TYPICAL FILLET IS 3/16" RADIUS
3. LETTERING SHALL BE 1 1/2" HEIGHT AND LOCATED AS SHOWN.
4. THIS LID FITS INSIDE 6" I.D. PIPE.
5. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINIS AND FLASHING; PAINT WITH BLACK ASPHALT COATING.
8. WEIGHT: APPROXIMATELY 13 LBS.
9. ALL DIMENSIONS IN INCHES.

<p>CITY OF AUSTIN WATER AND WASTEWATER UTILITY</p>		<p>VALVE BOX CASTING C-3 LID</p>	
<p>RECORD COPY SIGNED BY G. L. MARTIN</p>	<p>4/22/97</p>	<p>ADOPTED: 9/16/88</p>	<p>STANDARD NO. 511-11</p>
<p>APPROVED</p>	<p>DATE</p>	<p>SCALE: N.T.S.</p>	
		<p>INITIAL: RAM</p>	

WEIGHT	
LID	6.8 kg (15 LBS.)
BOX	15 kg (33 LBS.)



NOTES:

1. THIS VALVE BOX IS DESIGNED TO FIT OVER A 6" DIAMETER PIPE, OR ABOVE AN 8" DIAMETER PIPE.
2. EACH COVER SHALL BE CAST WITH TWO PICK POCKETS SET 180° APART
3. EACH COVER SHALL HAVE "RECLAIMED WATER" CAST INTO IT
4. REFER TO SPL WW-322 MISCELLANEOUS GRAY IRON CASTING FOR RECLAIMED WATER
5. VALVE BOX AND COVER TO BE PAINTED PURPLE PER SPL WW-3C

CITY OF AUSTIN
AUSTIN WATER UTILITY

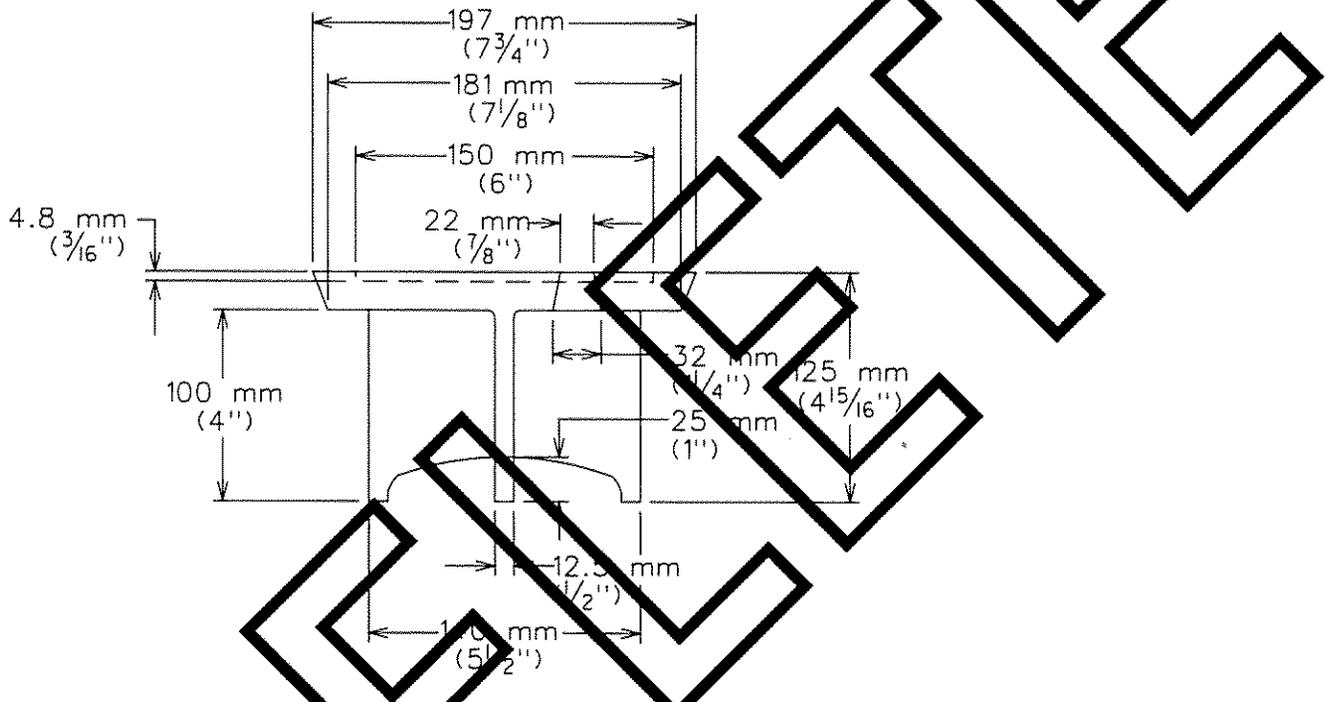
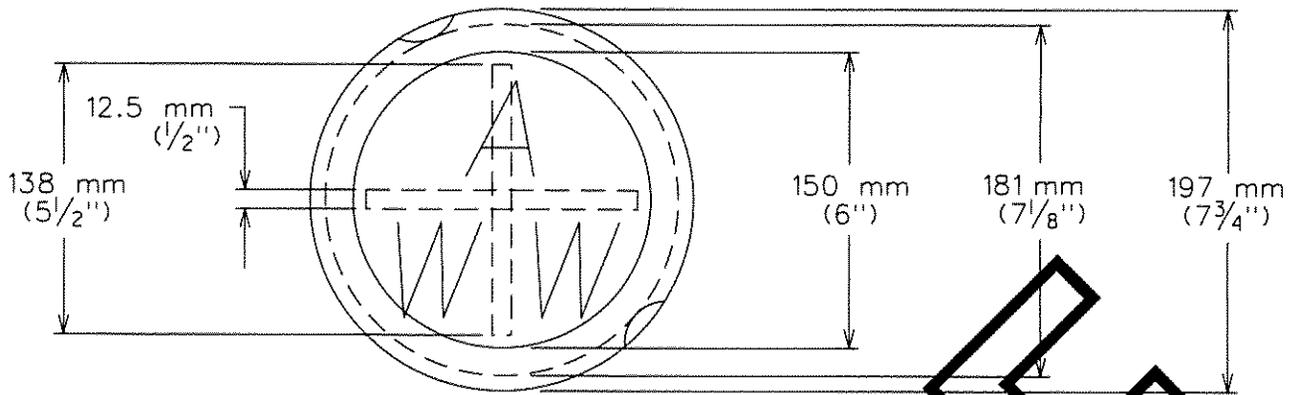
RECLAIMED WATER CONNECTION
VALVE BOX AND COVER

RECORD COPY SIGNED BY
KATHI L FLOWERS

8/31/11

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.
511S-11R



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. TYPICAL FILLET IS 4.8 mm (3/16") RADIUS
3. LETTERING SHALL BE 38 mm (1 1/2") HEIGHT AND LOCATED AS SHOWN.
4. THIS LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING; PAINT WITH BLACK ASPHALT COATING,
8. WEIGHT: APPROXIMATELY 6 kg (13 lbs).

CITY OF AUSTIN
WATER AND WASTEWATER UTILITY

VALVE BOX CASTING
C-7 LID

RECORD COPY SIGNED
BY KATHI F. PAYNE

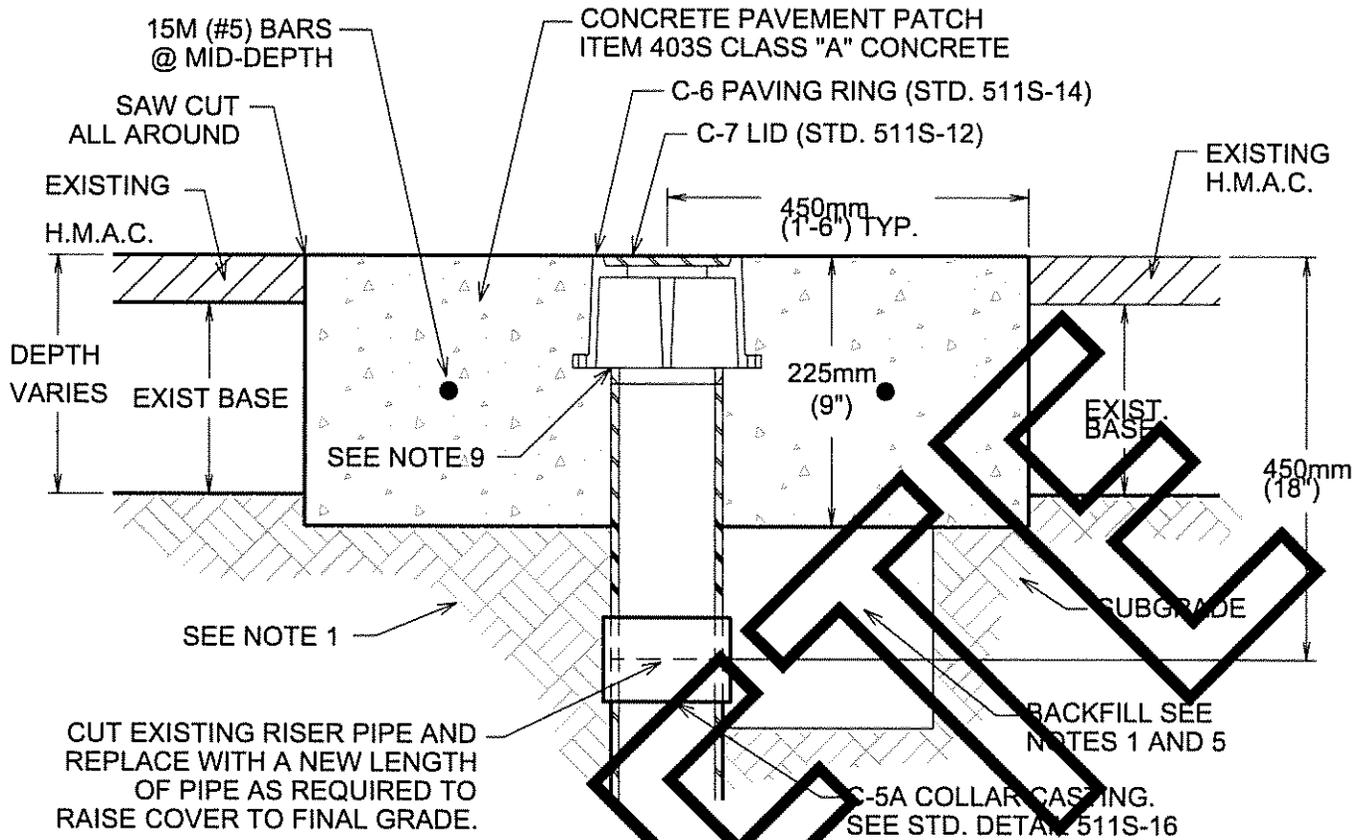
4/5/99

ADOPTED

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.

511S-12

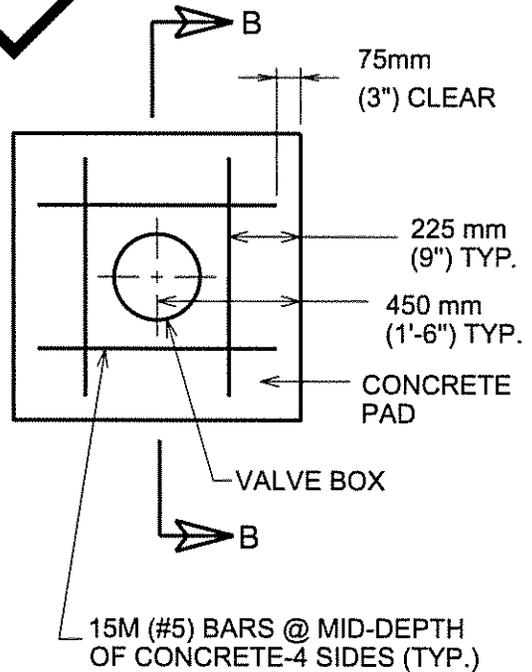


SECTION B-B

NOTES:

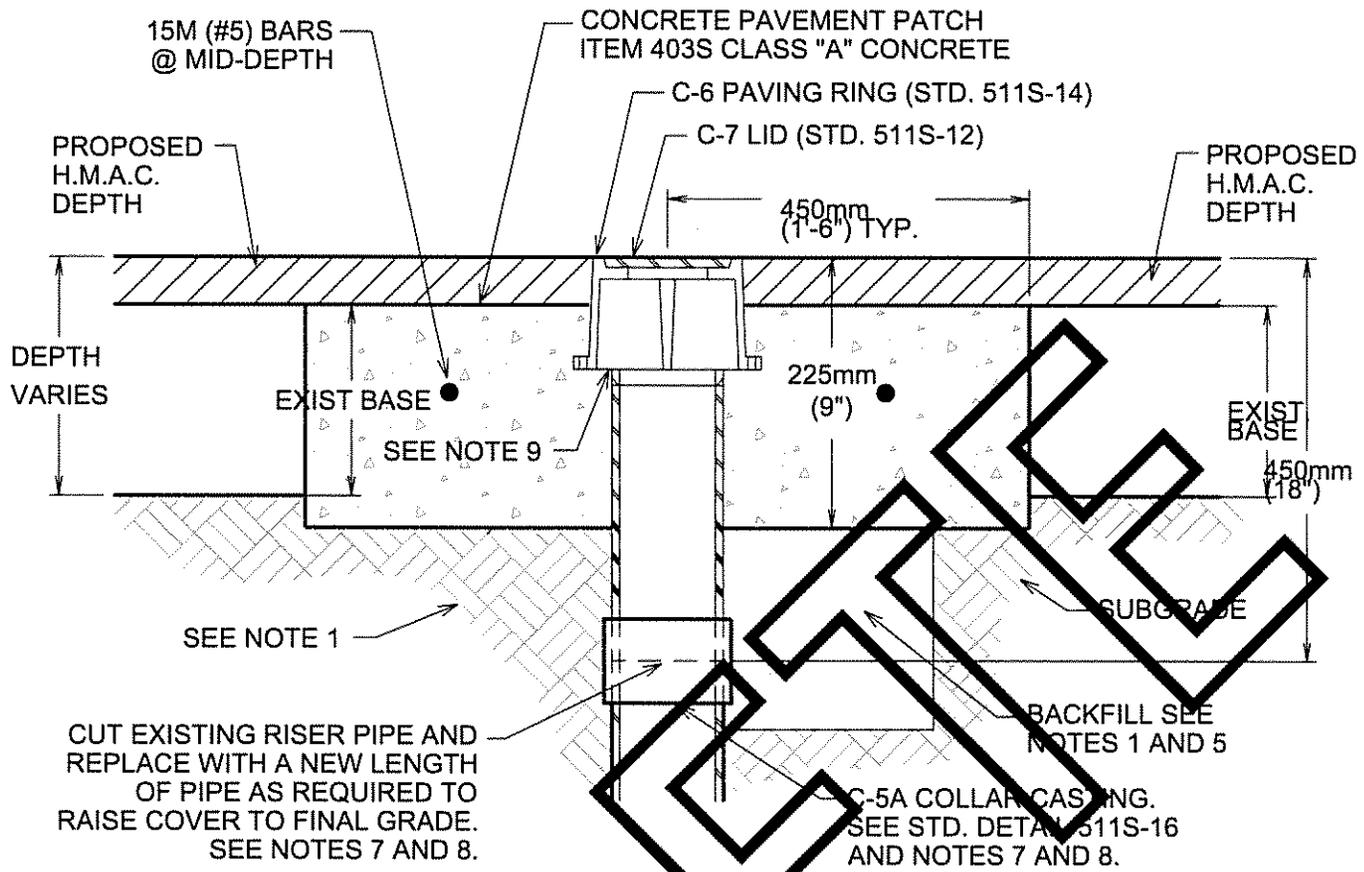
1. SUB-GRADE SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. REMOVE EXISTING RISER PIPE DOWN 450mm (18") AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A C-5A CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 500mm (20") DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.
7. NO MORE THAN 3 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
8. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 5.5m (18')
9. PAVING RING SHALL SIT FLUSH ON RISER.

DIRECTION OF TRAFFIC



PLAN VIEW

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>WATER VALVE BOX ADJUSTMENT TO GRADE W/FULL DEPTH CONCRETE</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-13A</p>

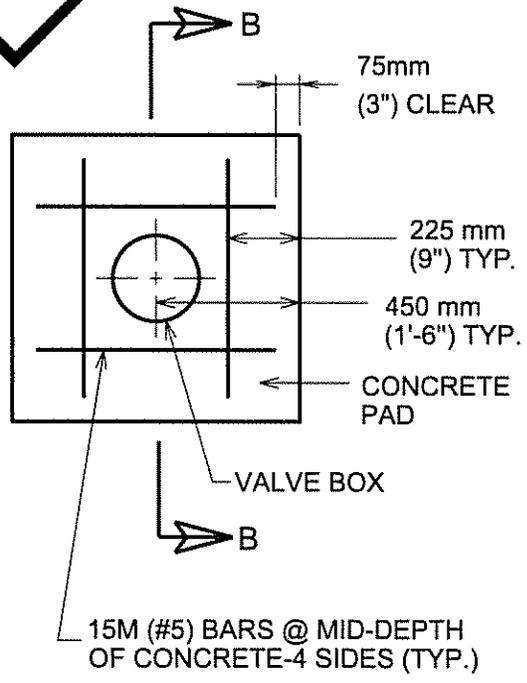


SECTION B-B

NOTES:

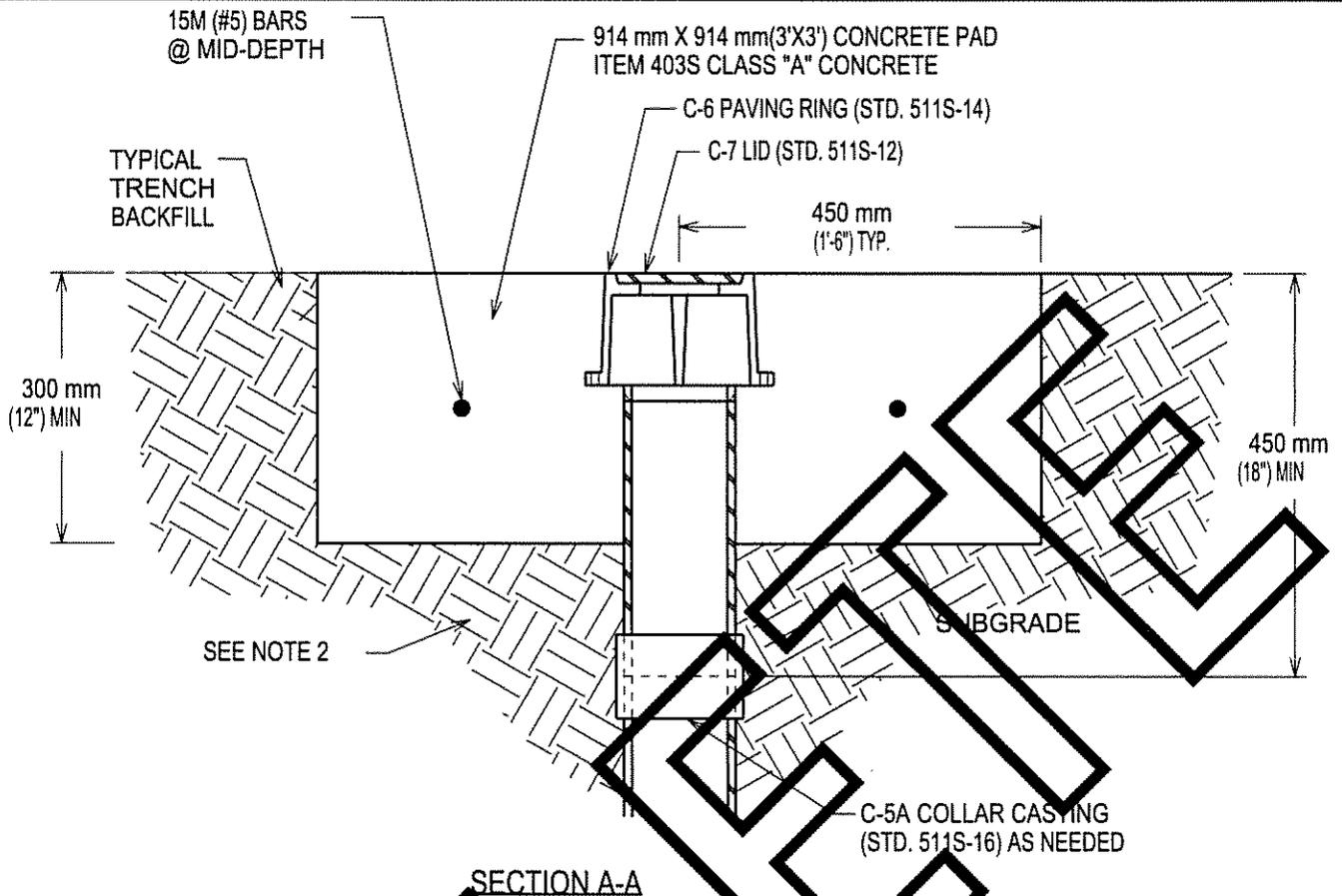
1. SUB-GRADE SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. REMOVE EXISTING RISER PIPE DOWN 450mm (18") AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A C-5A CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 500mm (20") DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.
7. NO MORE THAN 3 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
8. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 5.5m (18')
9. PAVING RING SHALL SIT FLUSH ON RISER.

DIRECTION OF TRAFFIC



PLAN VIEW

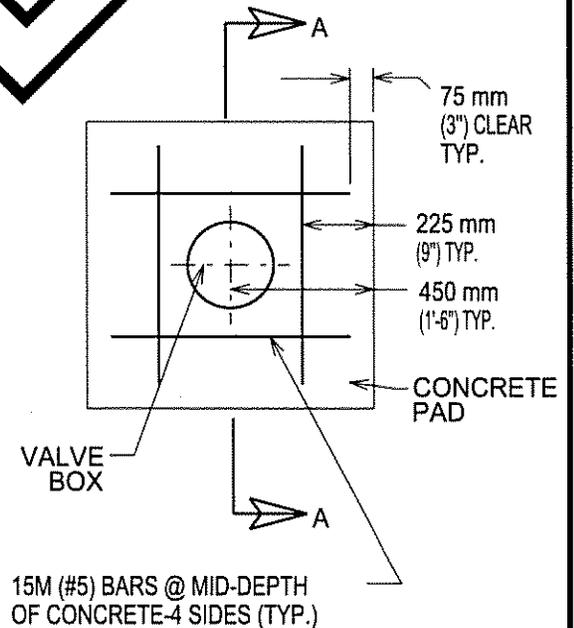
CITY OF AUSTIN AUSTIN WATER UTILITY	WATER VALVE BOX ADJUSTMENT TO GRADE W/CONCRETE AND H.M.A.C.	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-13B



SECTION A-A

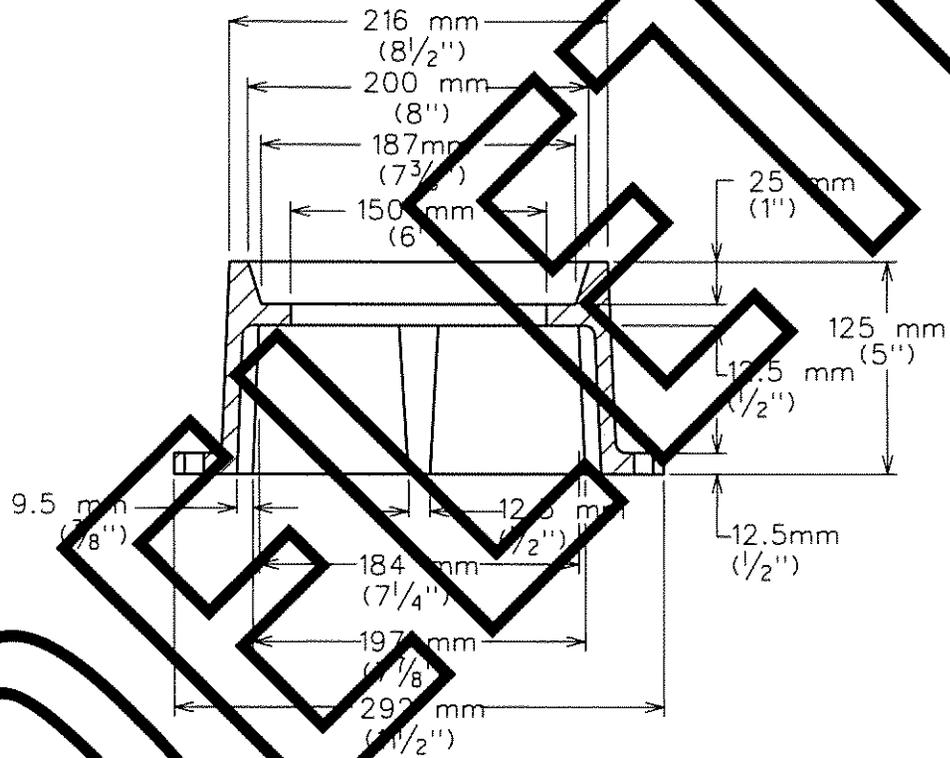
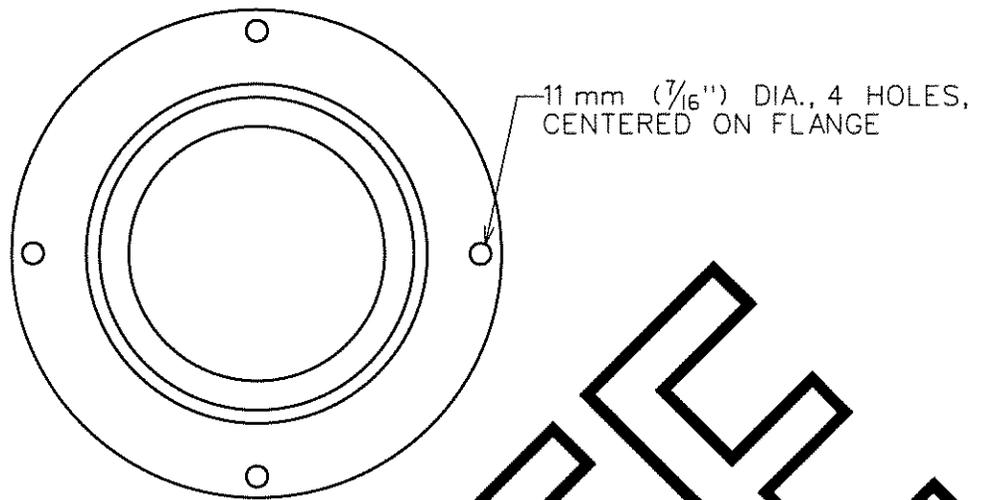
NOTES:

1. PADS ARE TO BE INSTALLED AROUND VALVE BOX LIDS ON ALL WATER VALVES IN UNPAVED AREAS.
2. TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 510.
3. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL GRADING OF TRENCH BACKFILL IS COMPLETED.
4. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE VALVE OPERATOR.
5. REINFORCING STEEL SHALL MEET ITEM 406S, REINFORCING STEEL.
6. IN UNDEVELOPED AREAS THAT WILL NOT BE REGULARLY MOVED AND MAINTAINED, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE PAD. DELINEATOR SHALL BE BLUE FOR WATER (FLEX STAKE HD600 OR APPROVED EQUAL) AND PURPLE FOR RECLAIMED WATER (CHRISTY'S PART NO. IDSF66.PRW WITH VANDAL RESISTANT ANCHOR KIT PART NO. IDSF.ANCHOR INSTALLED OR APPROVED EQUAL) AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE, TYPE I REFLECTIVE TAPE (COLE FARMS OR APPROVED EQUAL) MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.



PLAN VIEW

CITY OF AUSTIN AUSTIN WATER UTILITY		WATER VALVE BOX CONCRETE PAD IN UNPAVED AREA	
RECORD COPY SIGNED BY SAM ANGOORI	10/19/09	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-13C
	ADOPTED		



NOTES:

1. MATERIALS SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION & CASTING NUMBER & THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH RING.
3. DRAFT & SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
4. FINISH BY REMOVING FINIS & FLASHING; PAINT WITH BLACK ASPHALT COATING.
5. WEIGHT: APPROXIMATELY 10.5 kg (23 lbs).

CITY OF AUSTIN
WATER AND WASTEWATER UTILITY

VALVE BOX CASTING
C-6 PAVING RING

RECORD COPY SIGNED
BY KATHI F. PAYNE

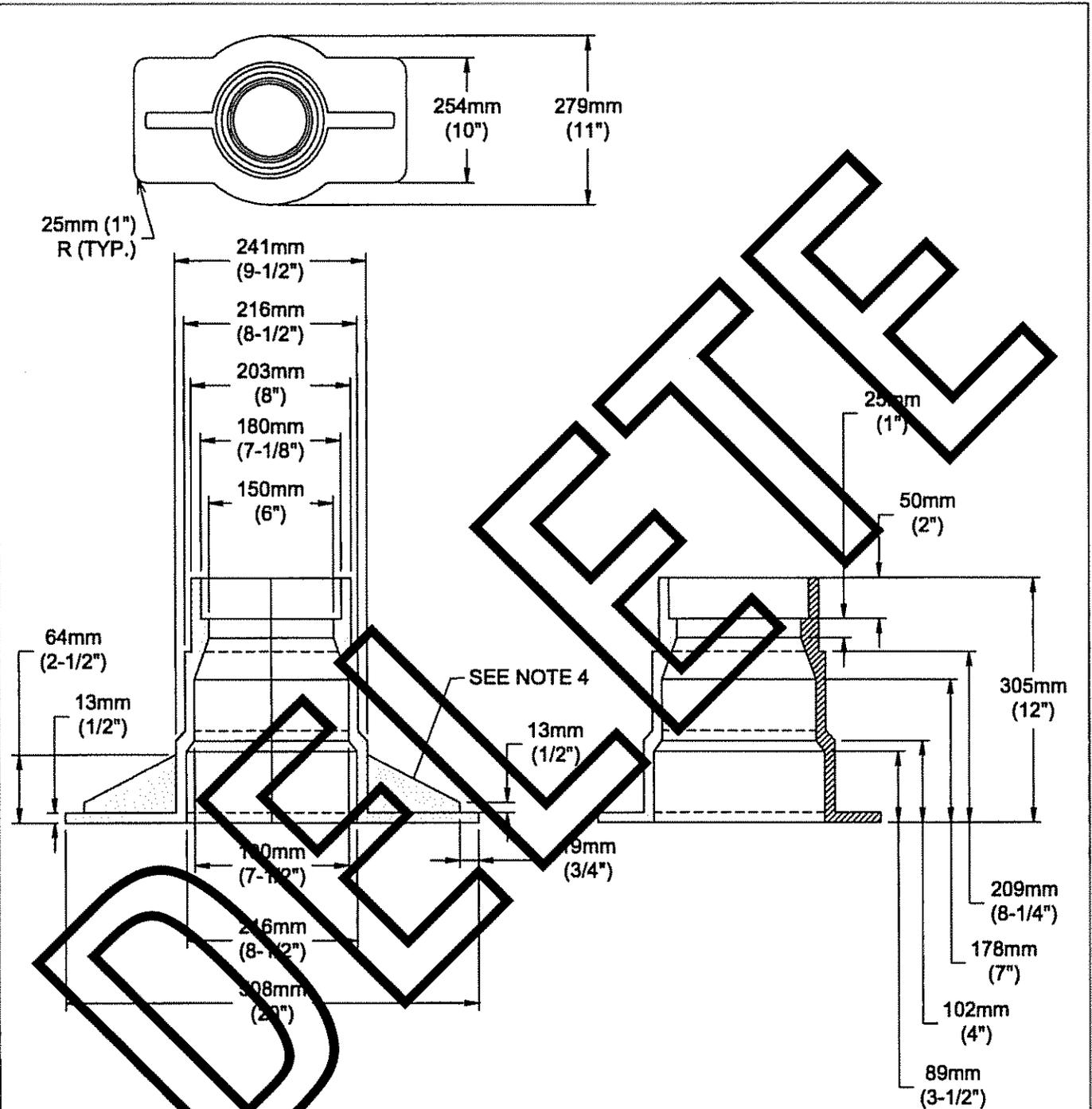
4/5/99

ADOPTED

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.

511S-14



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER AND THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH VALVE BOX CASTING BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDED REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.
5. WEIGHT: APPROXIMATELY 78 LBS.

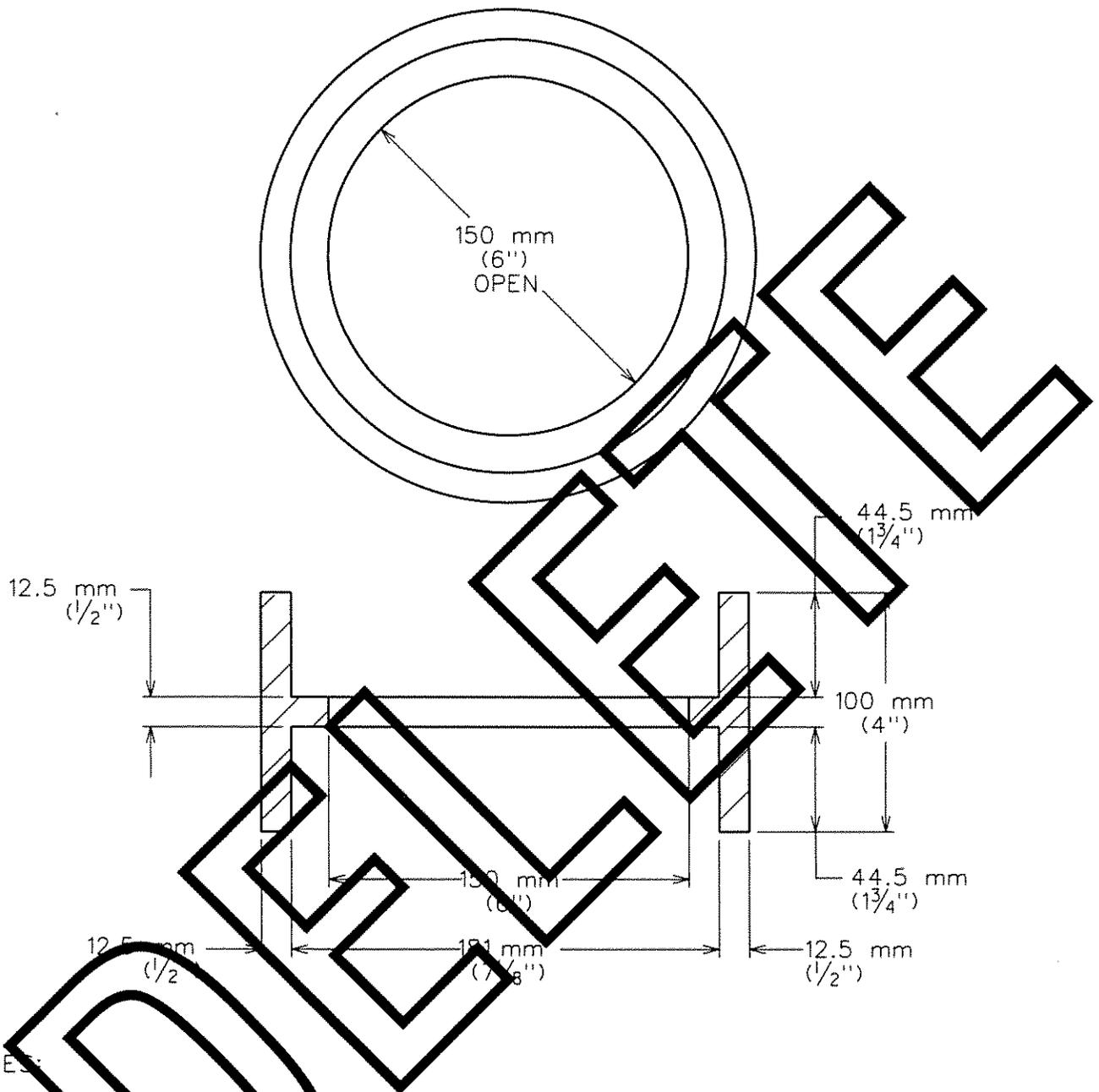
CITY OF AUSTIN
AUSTIN WATER UTILITY

VALVE BOX CASTING BASE

Kathleen Flowers 8/31/2011
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.
511S-15

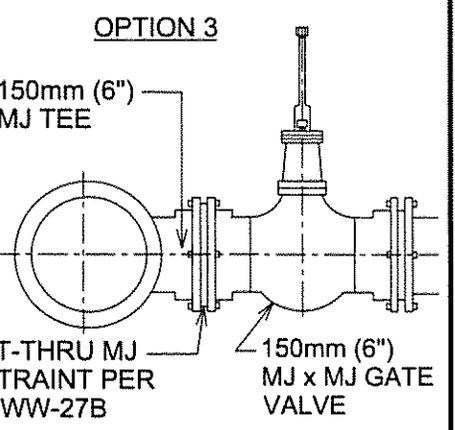
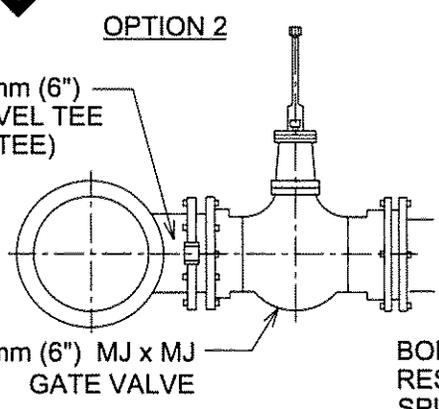
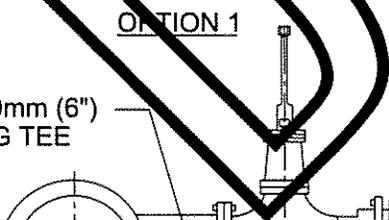
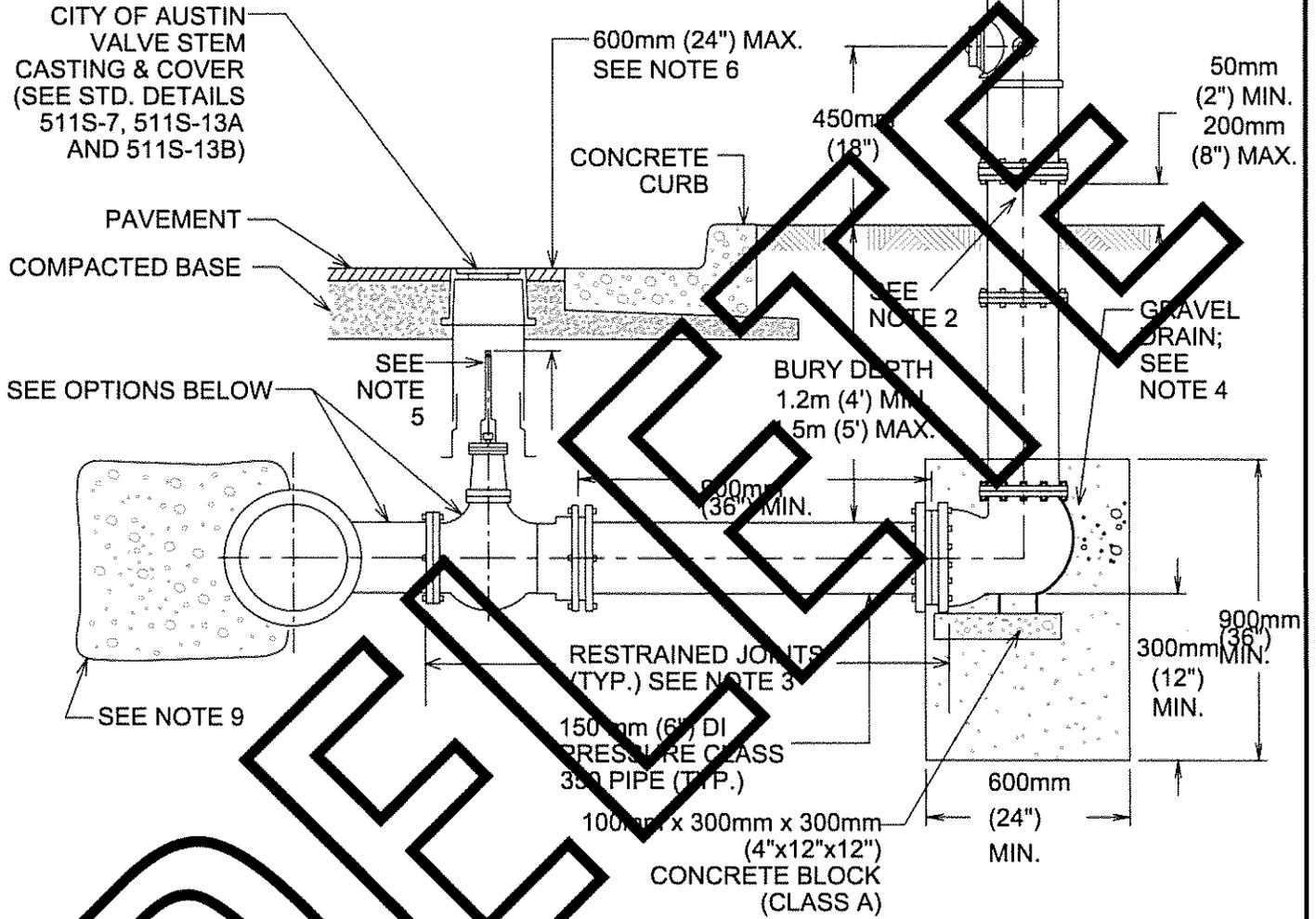


NOTES:

1. MATERIALS SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THIS COLLAR REQUIRED ONLY WITH BOOTS SUPPLIED PRIOR 1988
3. THE MANUFACTURER'S IDENTIFICATION & CASTING NUMBER & THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH COLLAR.
4. DRAFT & SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE
5. FINISH BY REMOVING FINIS & FLASHING; PAINT WITH BLACK ASPHALT COATING.
6. WEIGHT: APPROXIMATELY 8 kg (17 lbs).

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		VALVE BOX CASTING C-5A COLLAR	
<i>RECORD COPY SIGNED</i> <i>BY KATHI F. PAYNE</i>	4/5/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-16

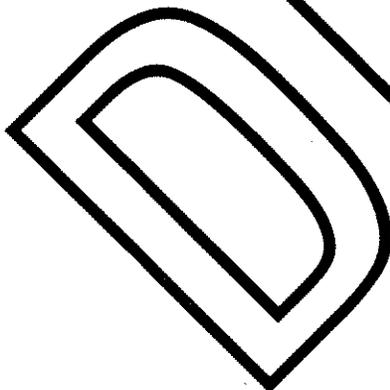
THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1



<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>STANDARD FIRE HYDRANT INSTALLATION</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-17 1 OF 2</p>

NOTES:

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED WHEN EXTENSIONS ARE NEEDED TO ACCOMMODATE FIRE HYDRANTS. SEE STD. DETAIL 511S-17A FOR FIRE HYDRANTS ON DEEP WATER MAINS.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 50mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEADS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)



CITY OF AUSTIN AUSTIN WATER UTILITY		STANDARD FIRE HYDRANT INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-17 2 OF 2

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1.

CITY OF AUSTIN VALVE STEM CASTING & COVER (SEE STD. DETAILS 511S-7, 511S-13A & 511S-13B)

PAVEMENT

600mm (24") MAX. SEE NOTE 6

450mm (18")

FIRE HYDRANT TO BE SET PLUMB

50mm (2") MIN. 200mm (8") MAX.

STEM EXT. SEE NOTE 5

SEE NOTE 2

BURY DEPTH 1.2m (4') MIN. 1.5m (5') MAX.

GRAVEL DRAIN; SEE NOTE 4

CONCRETE CURB

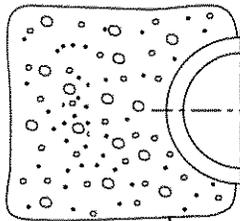
NO MORE THAN 2 BENDS SHALL BE UTILIZED. BENDS SHALL BE 11-1/4°, 22-1/2°, OR 45°.

900mm (36") MIN.

SEE OPTIONS BELOW

900mm (36") MIN.

300mm (12") MIN.



SEE NOTE 9

150mm (6") DI - PRESSURE CLASS 350 PIPE (TYP.)

100mm x 300mm x 300mm (4"x12"x12") CONCRETE BLOCK (CLASS A)

RESTRAINED JOINTS (TYP.) SEE NOTE 3

OPTION 1

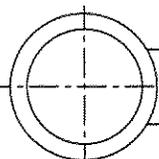
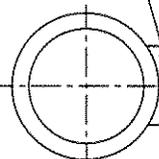
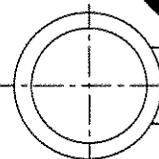
OPTION 2

OPTION 3

150mm (6") FLG TEE

150mm (6") SWIVEL TEE (FH TEE)

150mm (6") MJ TEE



150mm (6") FLG x MJ GATE VALVE

150mm (6") MJ x MJ GATE VALVE

BOLT-THRU MJ RESTRAINT PER SPL WW-27B

150mm (6") MJ x MJ GATE VALVE

CITY OF AUSTIN
AUSTIN WATER UTILITY

FIRE HYDRANT INSTALLATION
ON DEEP WATER MAINS

RECORD COPY SIGNED BY
KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.

511S-17A

1 OF 2

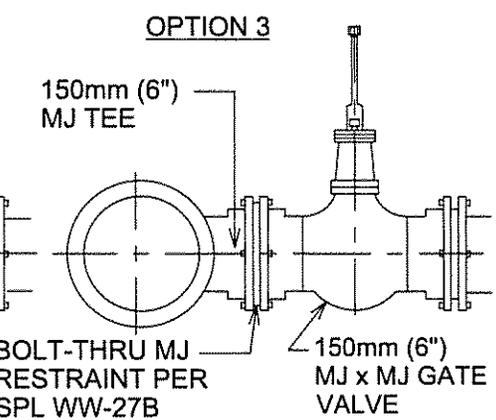
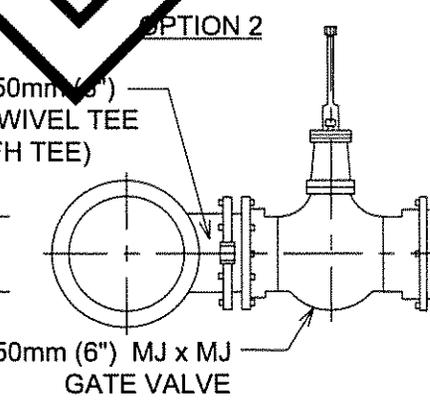
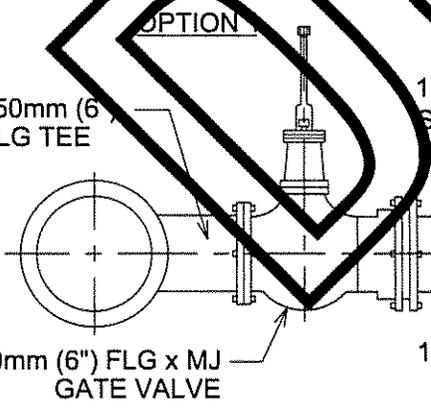
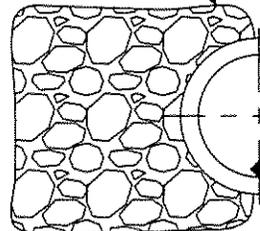
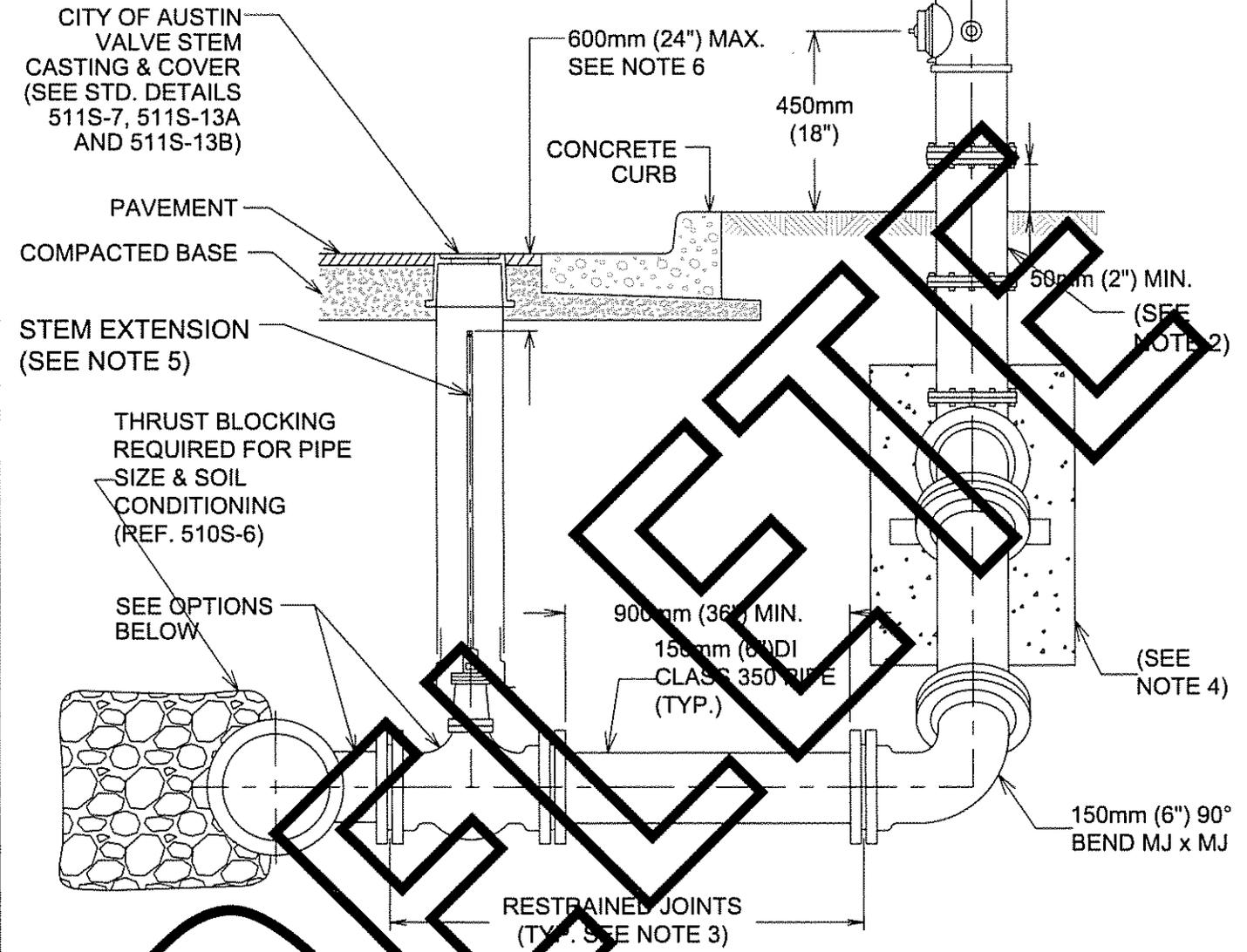
NOTES:

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 150mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH WATER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEAD IS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)

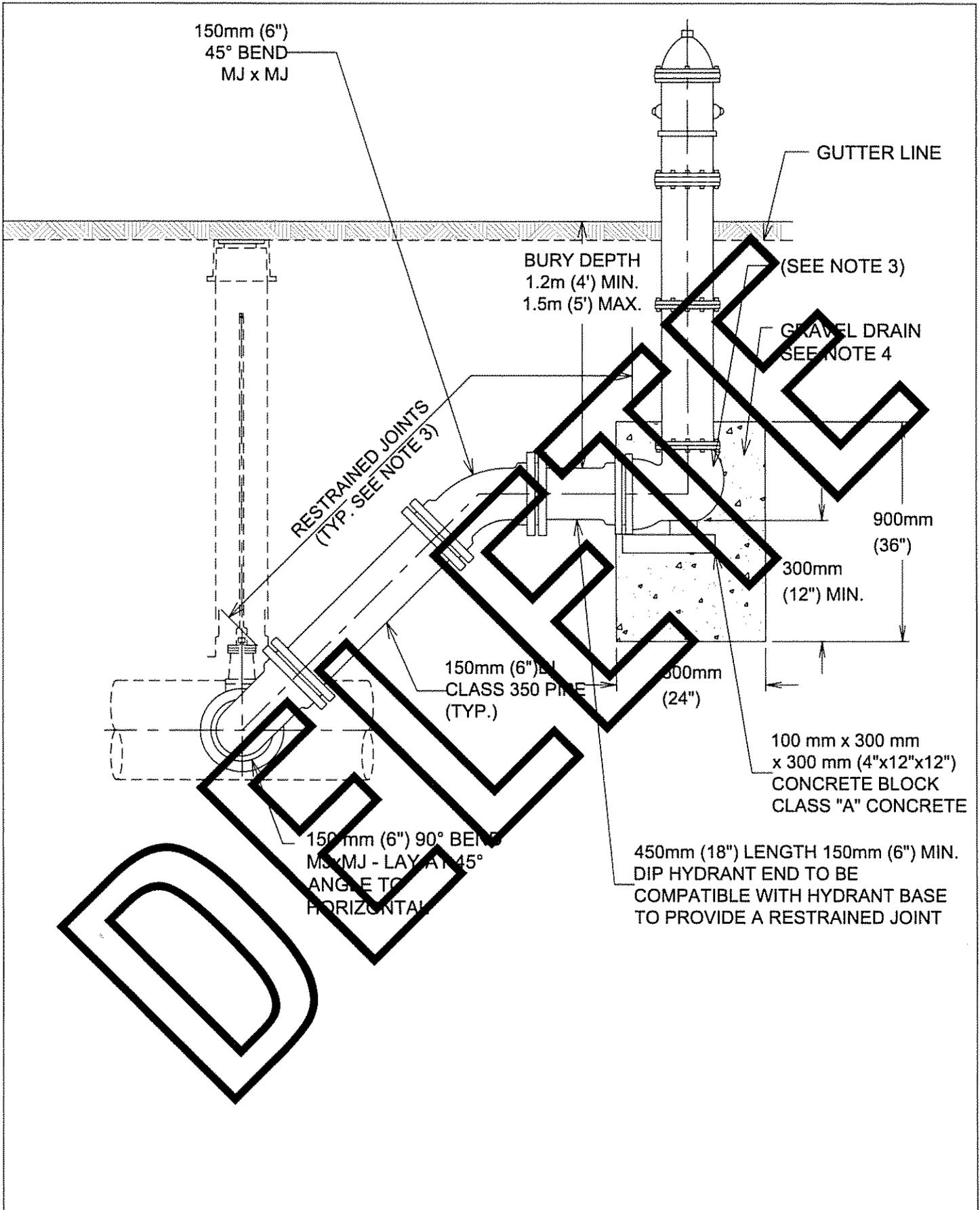
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CITY OF AUSTIN AUSTIN WATER UTILITY		FIRE HYDRANT INSTALLATION ON DEEP WATER MAINS	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-17A 2 OF 2

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1



<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-17B 1 OF 3</p>



<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. 511S-17B 2 OF 3</p>

NOTES:

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED WHEN EXTENSIONS ARE NEEDED TO ACCOMMODATE FIRE HYDRANTS. SEE STD. DETAIL 511S-17A FOR FIRE HYDRANTS ON DEEP WATER MAINS.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 150mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION. FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150 mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)

DELETED

CITY OF AUSTIN AUSTIN WATER UTILITY		DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-17B 3 OF 3

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1

CITY OF AUSTIN VALVE BOX CASTING & COVER (SEE STD. DETAILS 511S-7, 511S-13A AND 511S-13B)

1.5m (60") DIA. CLASS III RCP VAULT WITH REINFORCED PRE-CAST CONCRETE LID (AASHTO H20 LOADING) WITH COA RING AND 813mm (32") COVER. SEE STD. DETAIL 503S-6W (MODIFY LETTERING TO WATER) SEE NOTE 10

FIRE HYDRANT TO BE SET PLUMB

50mm (2") MIN.
200mm (8") MAX.

PAVEMENT

600mm (2') MAX. SEE NOTE 6

STEM EXT. SEE NOTE 5

CONCRETE CURB

150mm (6") DI PRESSURE CLASS 350 PIPE (TYP.)

SEE NOTE 2

150mm (6") PRV

GRAVEL DRAIN; SEE NOTE 4

600mm (24") MIN

300mm (12") MIN

SEE NOTE 9

SEE OPTIONS BELOW

SEE NOTE 10

600mm (24") MIN.

100mm x 300mm x 300mm (4"x12"x12") CONCRETE BLOCK (CLASS A)

ALL JOINTS RESTRAINED (TYP.) SEE NOTE 3

OPTION 1

OPTION 2

OPTION 3

150mm (6") FLG TEE

150mm (6") SWIVEL TEE (FH TEE)

150mm (6") MJ TEE

150mm (6") FLG x MJ GATE VALVE

150mm (6") MJ x MJ GATE VALVE

BOLT-THRU MJ RESTRAINT PER SPL WW-27B

150mm (6") MJ x MJ GATE VALVE

CITY OF AUSTIN
AUSTIN WATER UTILITY

FIRE HYDRANT INSTALLATION WITH PRV

RECORD COPY SIGNED BY
KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO.

511S-18

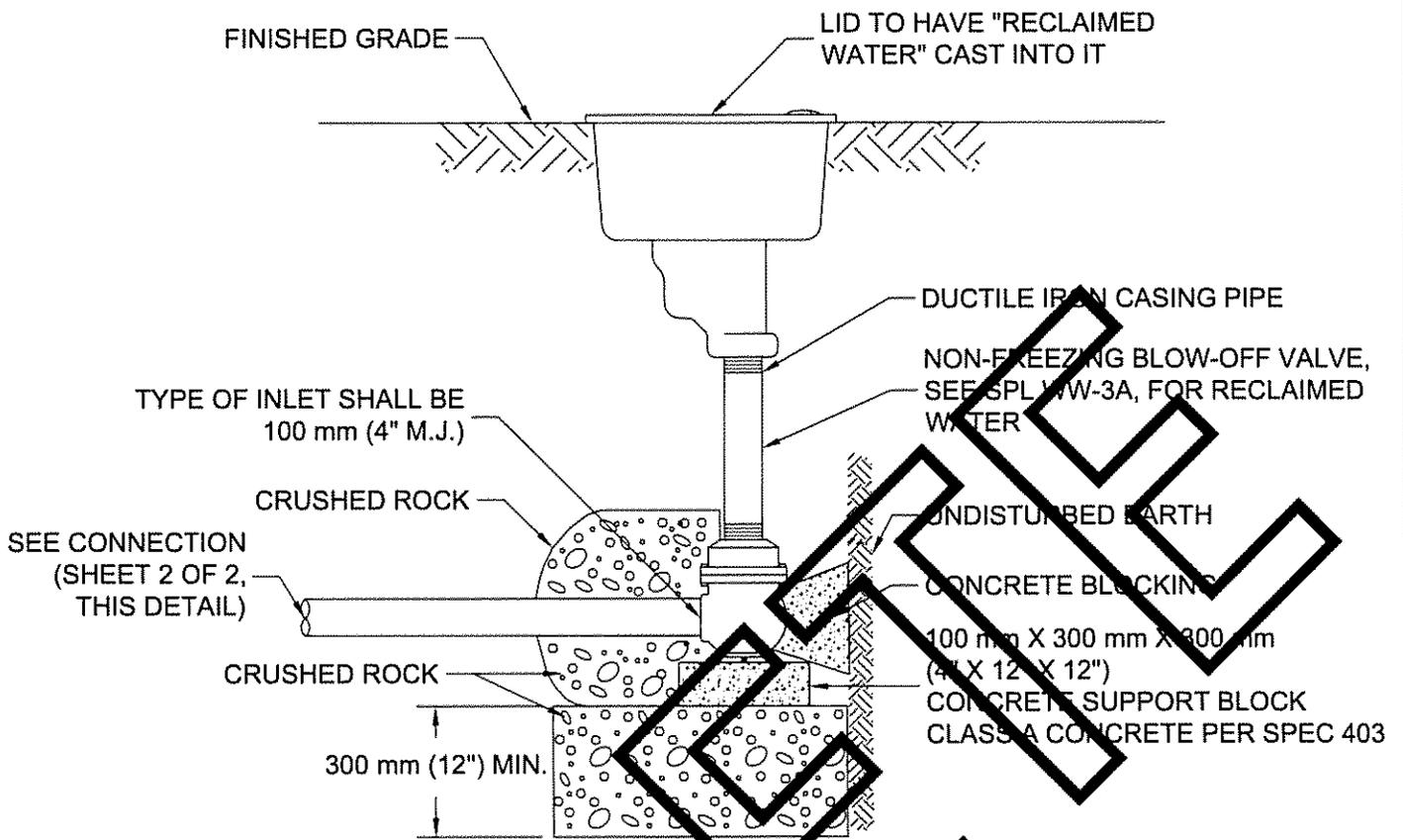
1 OF 2

NOTES:

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 600mm (24") IN DIAMETER AND 300mm (12") DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 300mm (12") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEAD IS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 150 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)
10. VAULT LID SHALL BE CENTERED OVER PRV. CLEARANCE SHALL BE A MINIMUM OF 300mm (12") FROM FLG TO VAULT WALL. VAULT SHALL BE CENTERED LONGITUDINALLY ON PIPE. WALL OPENINGS SHALL BE FILLED WITH WATER STOP OR NON-SHRINK GROUT. VAULT FLOOR SHALL BE CAST-IN-PLACE CONCRETE, MINIMUM THICKNESS OF 6", CLASS A, SPEC 403. SEALANT AT JOINT BETWEEN RCP AND FLOOR SHALL BE CONTINUOUS AND INSTALLED PER MANUFACTURERS INSTRUCTION, CONSEAL CS-102 OR SEALANT PER SPL WW-146A.
11. GRAVEL SHALL EXTEND A MINIMUM OF 300mm (12") BEYOND ALL VAULT WALLS AND 300mm (12") BELOW VAULT.
12. VAULT MAY NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY.



CITY OF AUSTIN AUSTIN WATER UTILITY		FIRE HYDRANT INSTALLATION WITH PRV	
RECORD COPY SIGNED BY ADOPTED RATHLE FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-18 2 OF 2



NOTES:

1. REFER TO SPL WW-3A, BLOW-OFF VALVE FOR RECLAIMED WATER.
2. VALVE SHALL BE SET IN 10.17 cm (4 in) OF CRUSHED STONE TO ALLOW FOR PROPER DRAINAGE OF THE VALVE.
3. ALL JOINTS TO BE RESTRAINED FROM MAIN TO BLOW-OFF VALVE. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. CAST IRON LID TO HAVE "RECLAIMED WATER" CAST INTO IT AND BE FACTORY PAINTED PURPLE.
5. ALL PIPE AND APPURTENANCES TO BE MANUFACTURED PURPLE, WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D, OR PAINTED PURPLE PER SPL WW-3C.
6. DO NOT LOCATE IN TRAFFIC AREA OR DRIVEWAY.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>RECLAIMED WATER CONNECTION 4" NON-TRAFFIC RATED, NON-FREEZING BLOW-OFF VALVE</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS</p>	<p>8/31/11</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p> <p>STANDARD NO. 511S-19R SHEET 1 OF 2</p>

SEE RECLAIMED WATER
VALVE BOX AND COVER DETAIL
511S-11R AND DETAILS
511S-13A AND 511S-13B

SEE DETAIL FOR BLOW-OFF VALVE
(SHEET 1 OF 2, THIS DETAIL)

SEE DETAIL 511S-7,
TYPICAL GATE VALVE
100 mm - 600 mm
(4" - 24")

CONCRETE BLOCKING

SEE OPTIONS BELOW
FOR TEE CONNECTION

150 mm (6")
GATE VALVE
M.S. X M.J.
(AS SPECIFIED)

150 mm (6") DI PIPE
MIN. 350 CLASS (RESTRAINED)

150 mm (6") TO 100 mm (4")

100 mm (4") DI PIPE MIN.
350 CLASS (RESTRAINED)

OPTION 1

OPTION 2

OPTION 3

150mm (6")
FLG TEE

150mm (6")
SWIVEL TEE
(FH TEE)

150mm (6")
MJ TEE

150mm (6")
FLG x MJ
GATE VALVE

150mm (6")
MJ x MJ
GATE VALVE

BOLT-THRU MJ
RESTRAINT PER
SPL WW-27B

150mm (6")
MJ x MJ GATE
VALVE

CITY OF AUSTIN
AUSTIN WATER UTILITY

RECLAIMED WATER CONNECTION
4" NON-TRAFFIC RATED,
NON-FREEZING BLOW-OFF VALVE

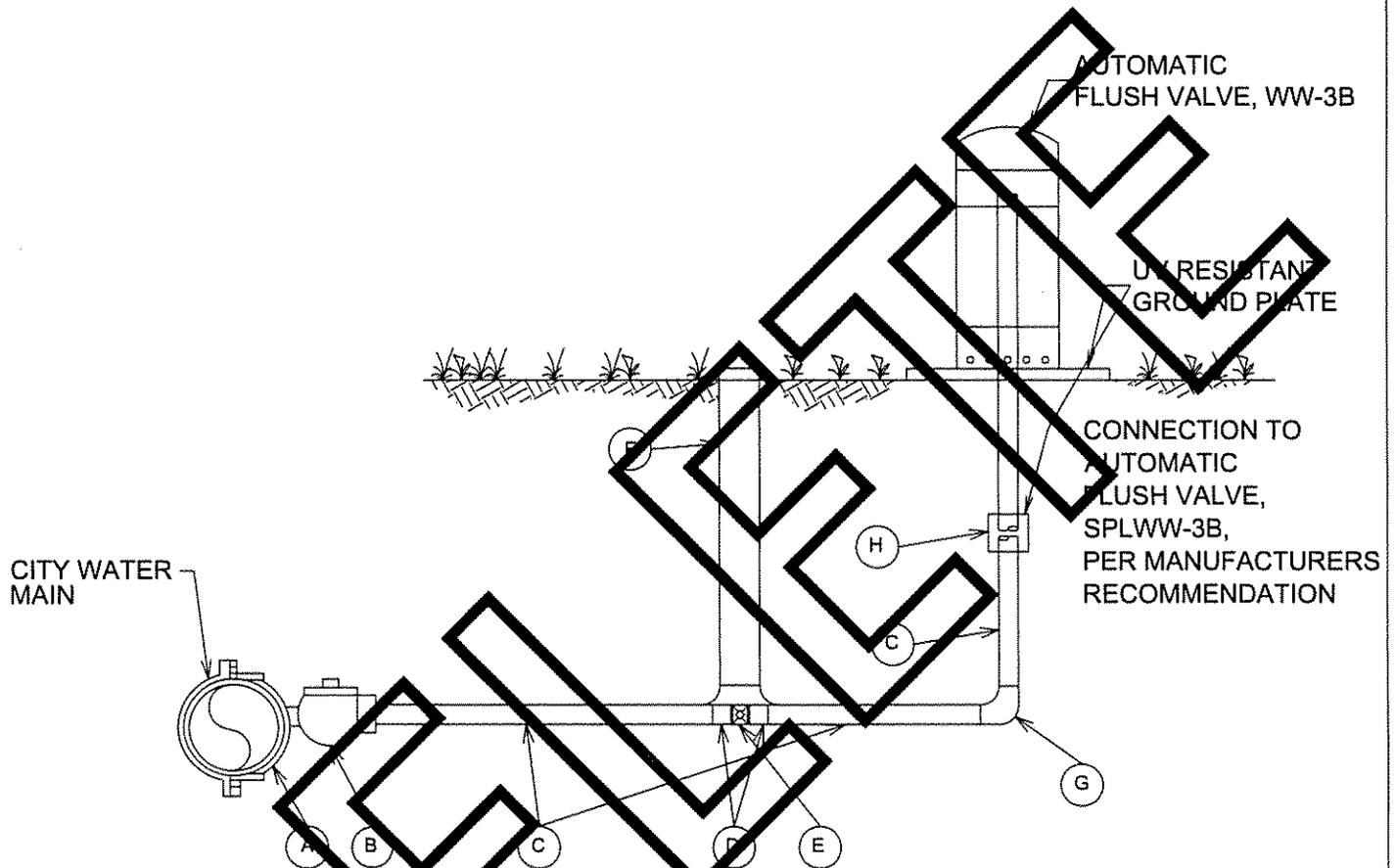
RECORD COPY SIGNED BY
KATHI L FLOWERS

8/31/11

THE ARCHITECT/ENGINEER ASSUMES
RESPONSIBILITY FOR APPROPRIATE USE
OF THIS STANDARD.

STANDARD NO.
511S-19R
SHEET 2 OF 2

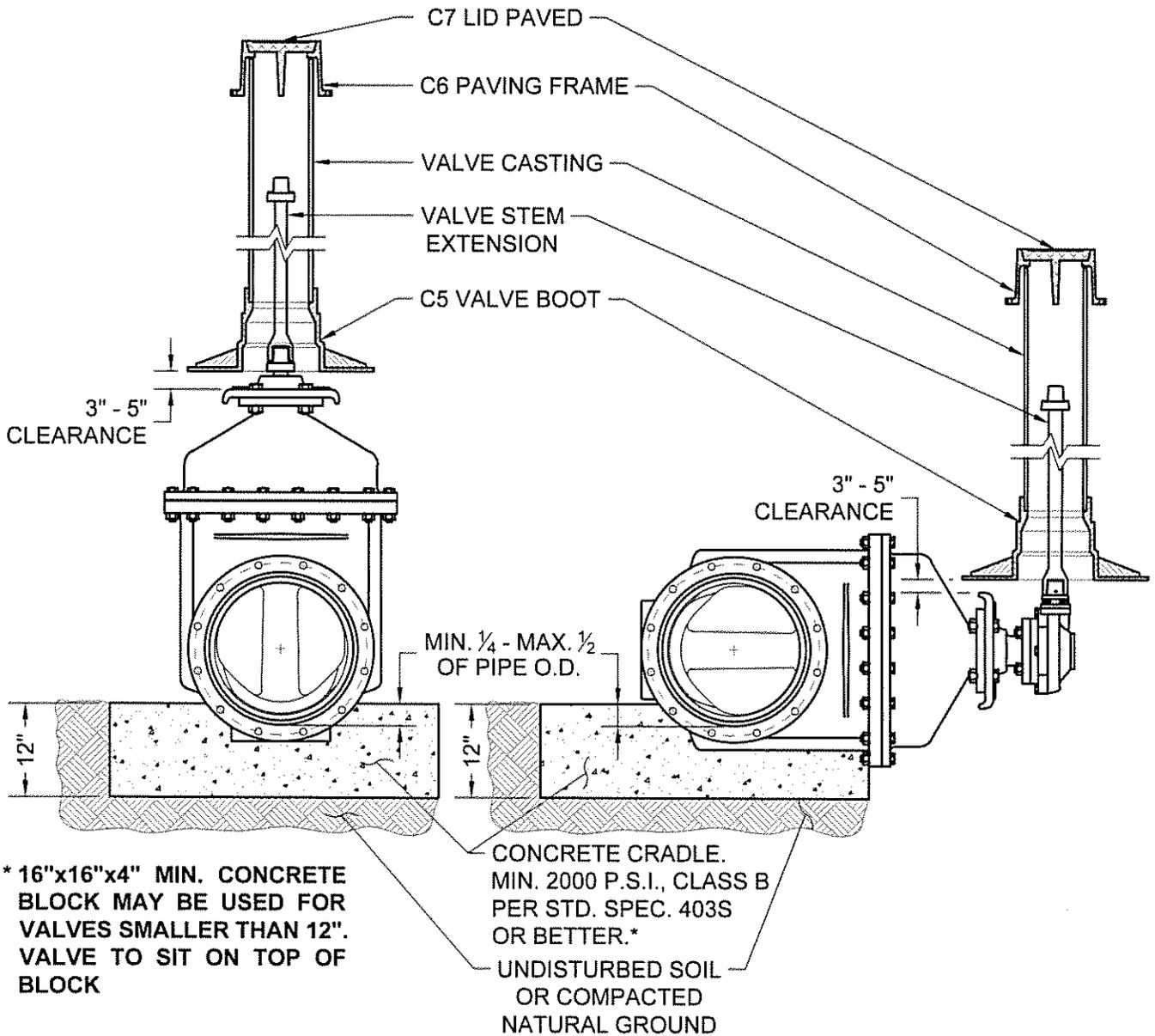
- (A) 2" SERVICE SADDLE, SPL WW-256
- (B) 2" CORPORATION STOP BALL VALVE, SPL WW-68
- (C) 2" COPPER SERVICE TUBING, SPL WW-613
- (D) 2" BRASS COUPLING, COMPRESSION x MIP, SPL WW-68
- (E) 2" GATE VALVE, NRS, NUT OPERATOR, SPL WW-700A
- (F) VALVE BOX, SEE STD. DETAIL 511S-7 VERTICAL VALVE INSTALLATION
- (G) 2" BRASS 90° BEND, COMPRESSION x COMPRESSION
- (H) 2" BRASS COUPLING, COMPRESSION x FIP



NOTES:

1. AUTOMATIC FLUSH VALVE MAY ALSO BE USED ON TAPPED PLUGS AND CAPS.
2. THE CONTRACTOR SHALL PROVIDE THE FLUSH VALVE ACCESS KEY TO AUSTIN WATER UTILITY UPON FLUSH VALVE ACCEPTANCE.
3. VALVE (A) SHALL NOT BE LOCATED MORE THAN 36" BELOW FLUSH VALVE OR MORE THAN 24" HORIZONTALLY FROM FLUSH VALVE. VALVE (E) SHALL NOT BE LOCATED IN A SIDEWALK OR DRIVEWAY.
4. METER BOX AND FLUSH VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY.
5. A DRAINAGE WAY, CONTAINED WITHIN THE R.O.W. OR AN EASEMENT, SHALL BE PROVIDED FROM FLUSH VALVE TO STORM SEWER SYSTEM OR PUBLIC DRAINAGE WAY.
6. DESIGN ENGINEER SHALL PROVIDE SHALL PROVIDE CALCULATIONS WITH PLANS AT THE TIME OF REVIEW INCLUDING FREQUENCY AND FLUSH RATE.

CITY OF AUSTIN AUSTIN WATER UTILITY		AUTOMATIC FLUSH VALVE	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-20



VERTICAL VALVE

HORIZONTAL VALVE

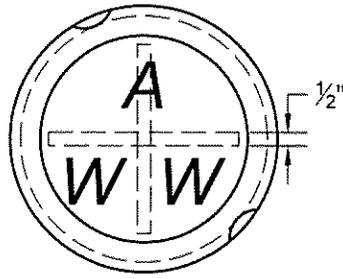
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:

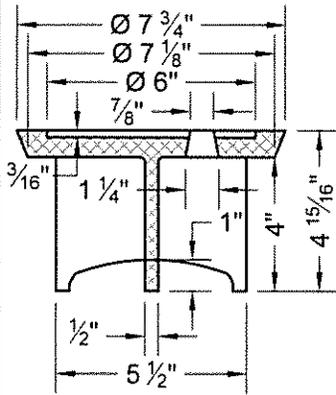
1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

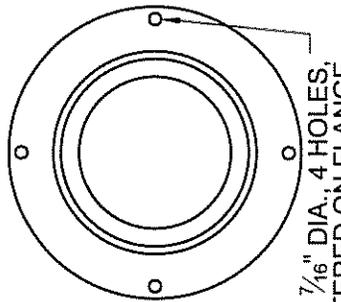
CITY OF AUSTIN AUSTIN WATER		TYPICAL GATE VALVE 4" - 16"	
<i>Kathi L. Flowers</i> 05/18/2016 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 1 OF 4



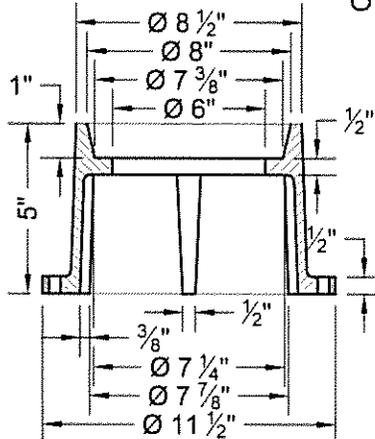
TOP VIEW



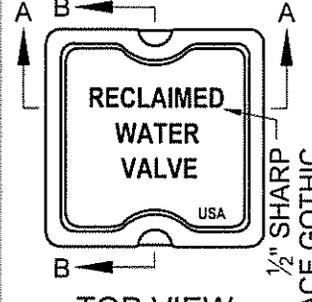
C7 LID*
(IN PAVEMENT)



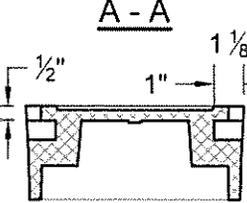
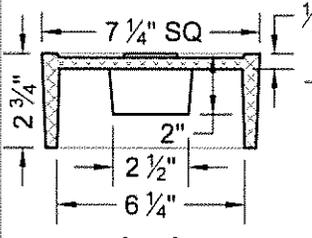
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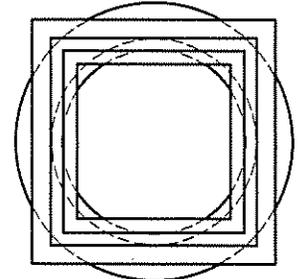
C6 PAVING FRAME
(PAVEMENT ONLY)



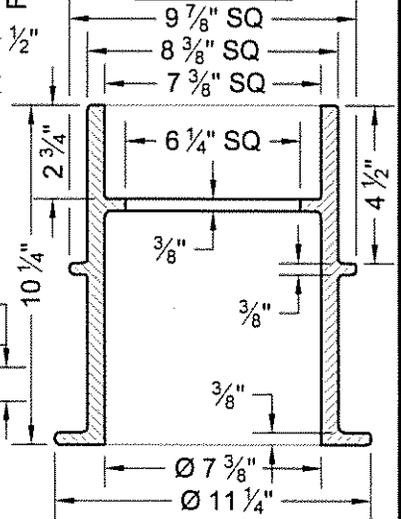
TOP VIEW



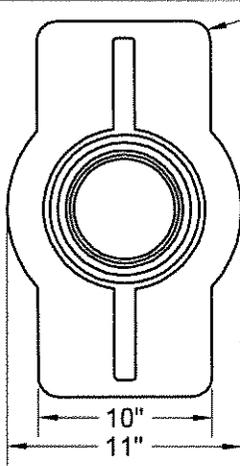
RECLAIMED LID



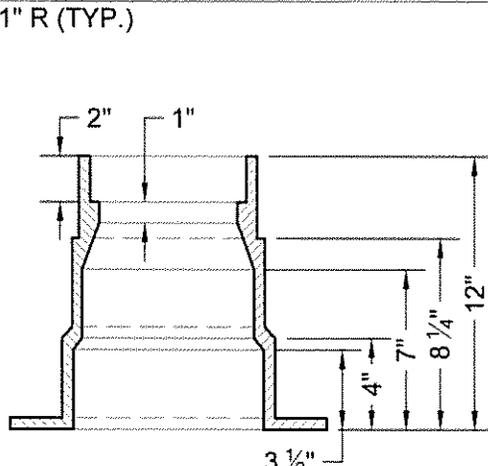
TOP VIEW



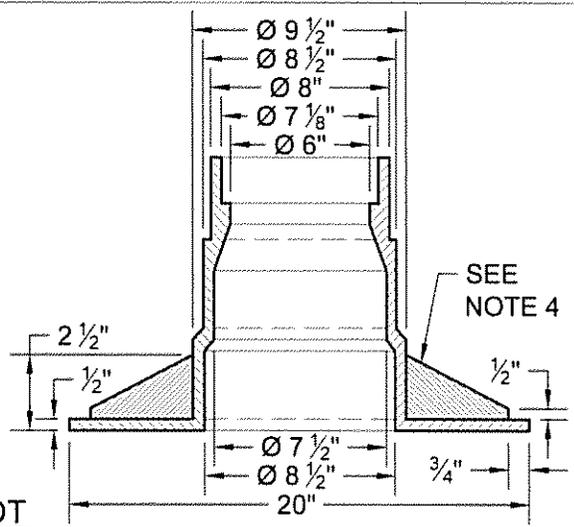
RECLAIMED FRAME



TOP VIEW



C5 VALVE BOOT



SEE NOTE 4

NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:

- C7 LID: 13 LBS
- RECLAIMED LID: 15 LBS
- C6 FRAME: 23 LBS
- RECLAIMED FRAME: 33 LBS
- C5 BASE: 78 LBS

* LETTERING SHALL BE 1 1/2"
2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN
AUSTIN WATER

TYPICAL GATE VALVE 4" - 16"

Kathi L. Flowers

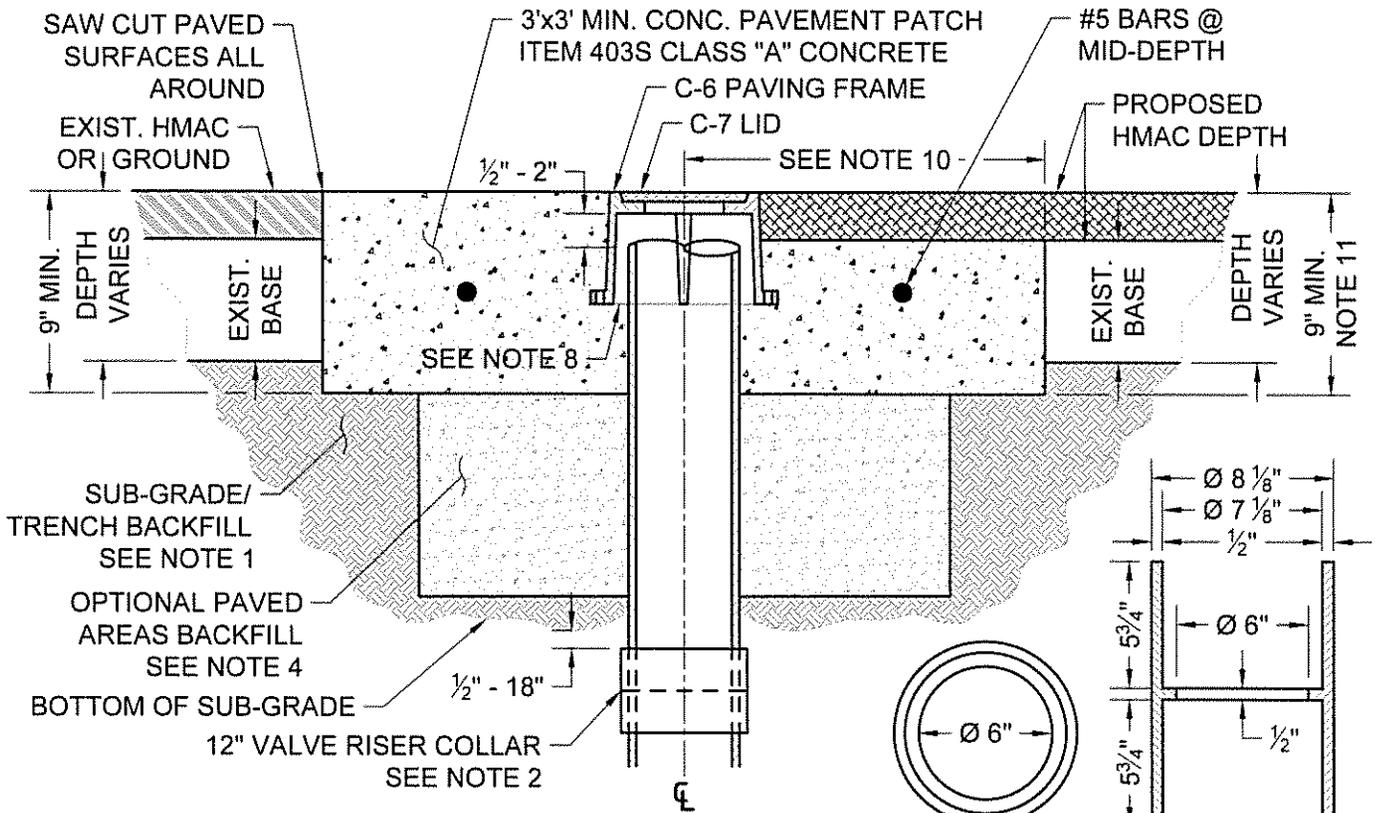
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THE ARCHITECT/ENGINEER ASSUMES
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**FULL DEPTH CONCRETE
& UNPAVED AREAS**

CONCRETE & H.M.A.C.



SECTION A - A

TOP VIEW

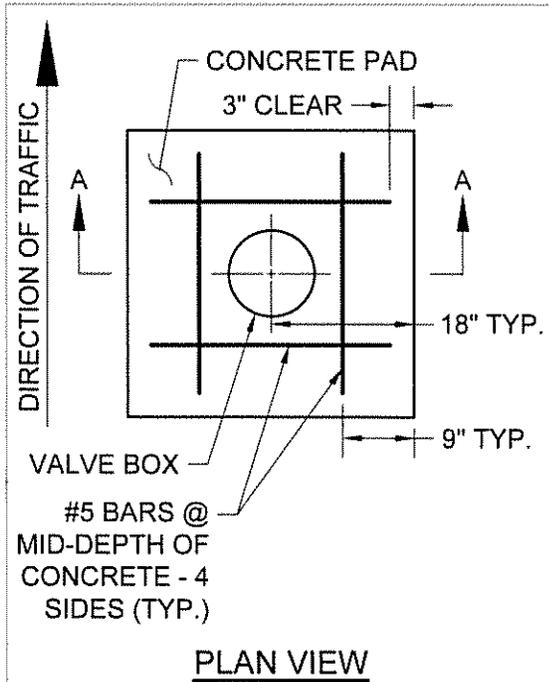
COLLAR *

12" VALVE RISER COLLAR

* 12" COLLAR: 39 LBS

NOTES:

1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED 1/2" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.



PLAN VIEW

CITY OF AUSTIN
AUSTIN WATER

TYPICAL GATE VALVE 4" - 16"

Kathi L. Flowers

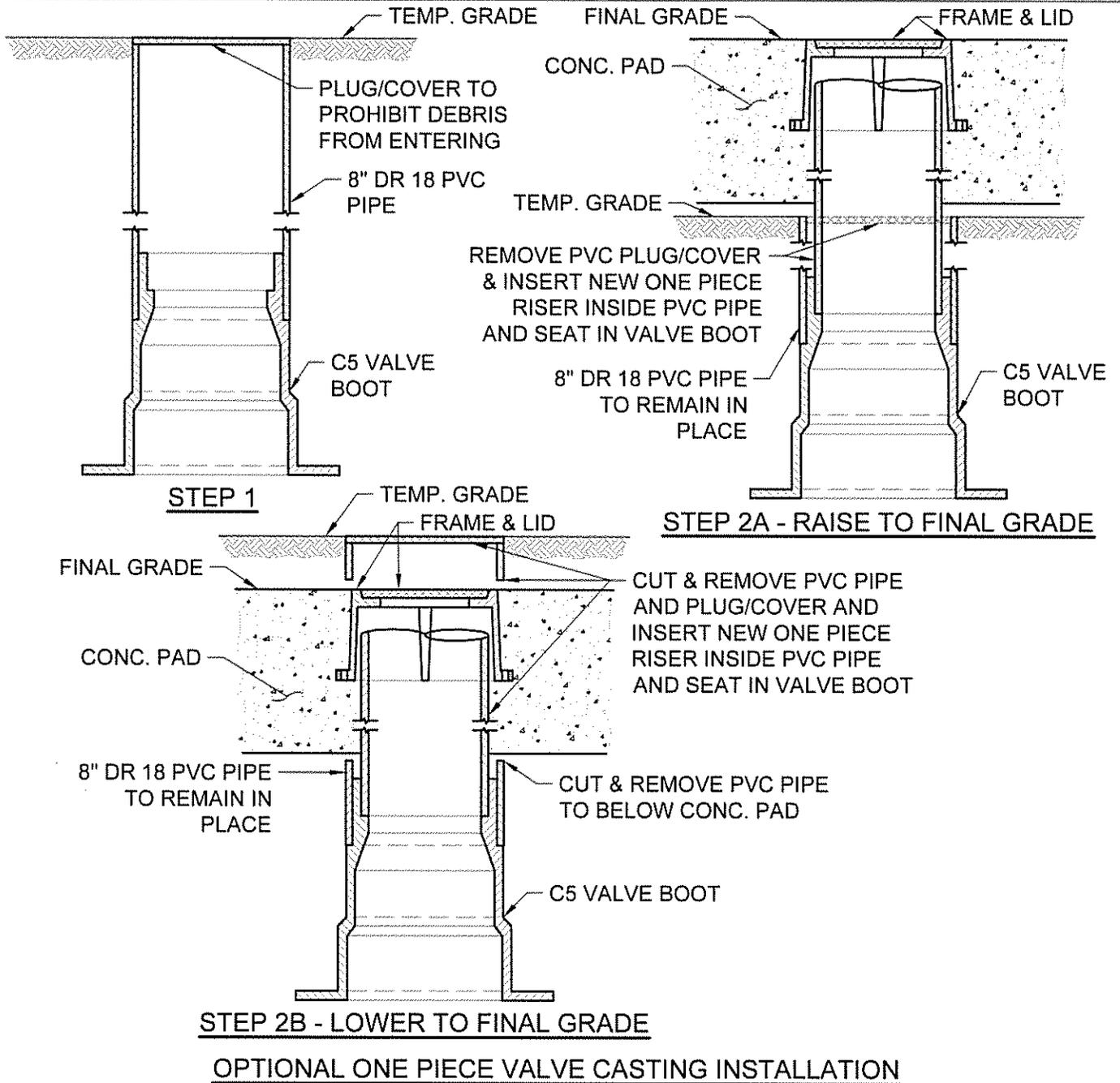
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ADOPTED

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NOTES (CONT):

8. PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED 1/2" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
9. IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
10. VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
11. MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



CITY OF AUSTIN
AUSTIN WATER

TYPICAL GATE VALVE 4" - 16"

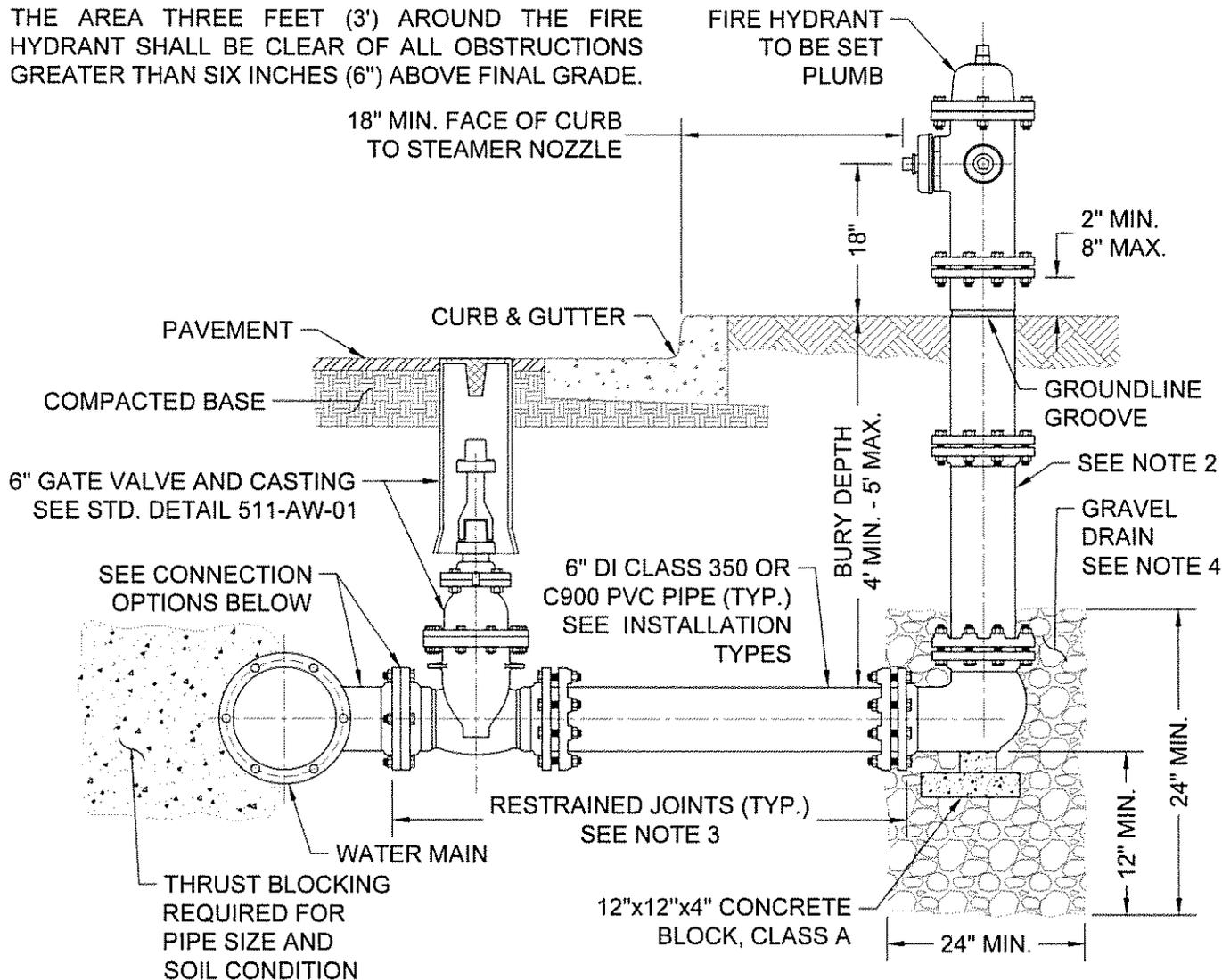
Kathi L. Flowers

05/18/2016
ADOPTED

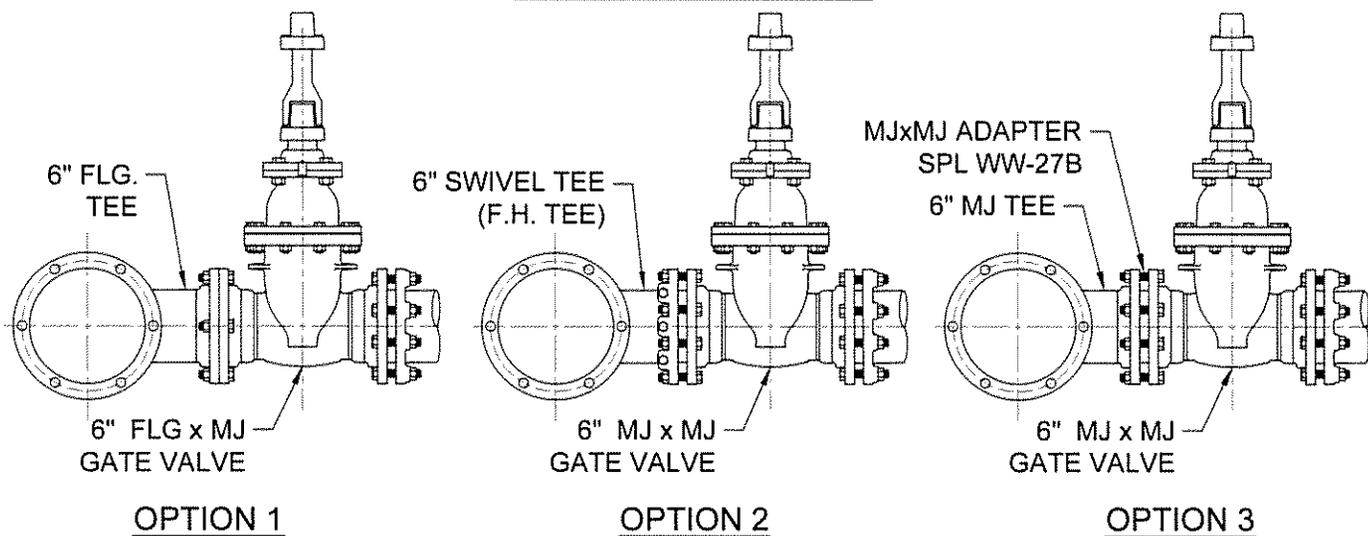
THE ARCHITECT/ENGINEER ASSUMES
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THE AREA THREE FEET (3') AROUND THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS GREATER THAN SIX INCHES (6") ABOVE FINAL GRADE.



CONNECTION TO MAIN



CITY OF AUSTIN
AUSTIN WATER

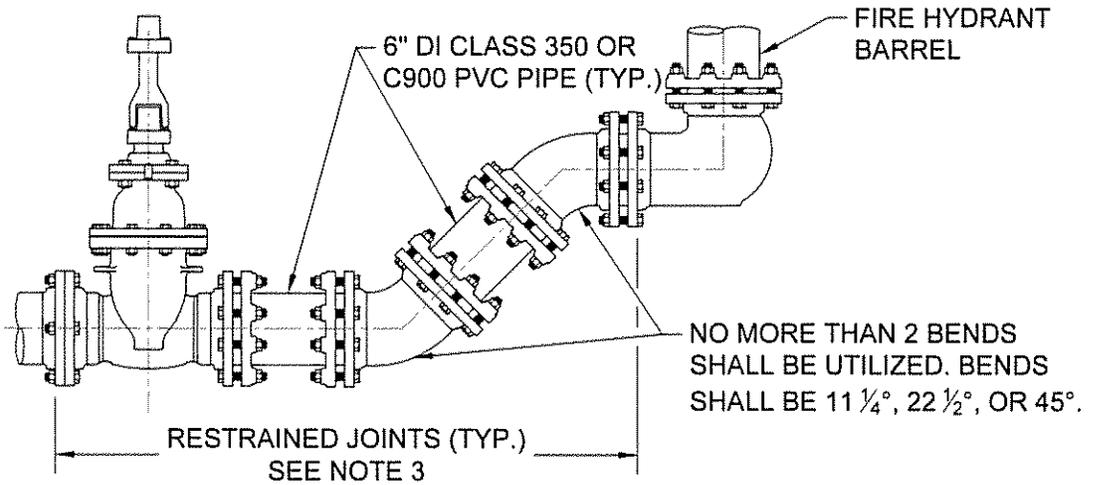
FIRE HYDRANT

Kathi L. Flowers

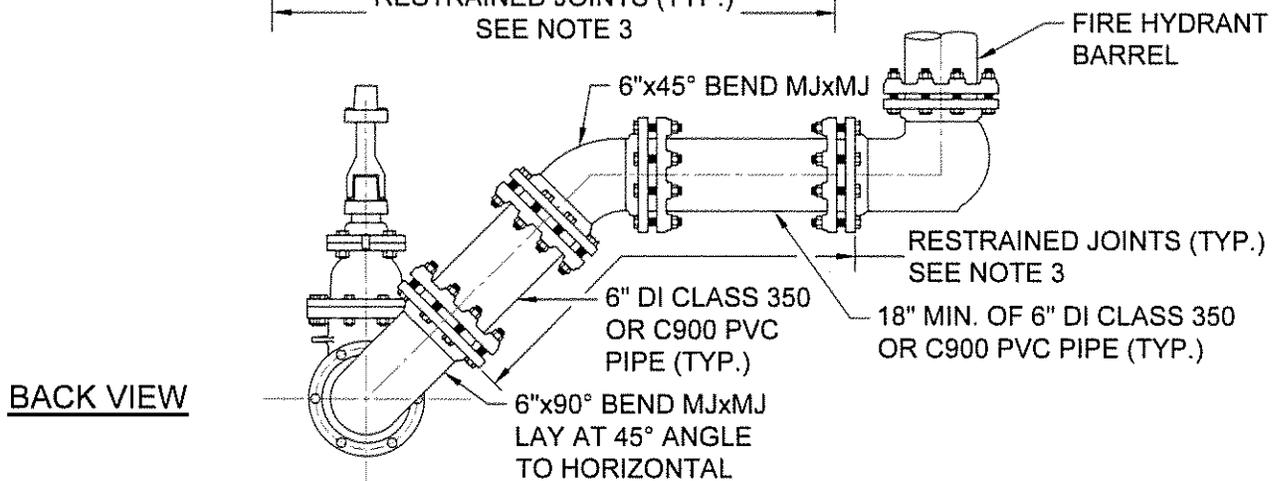
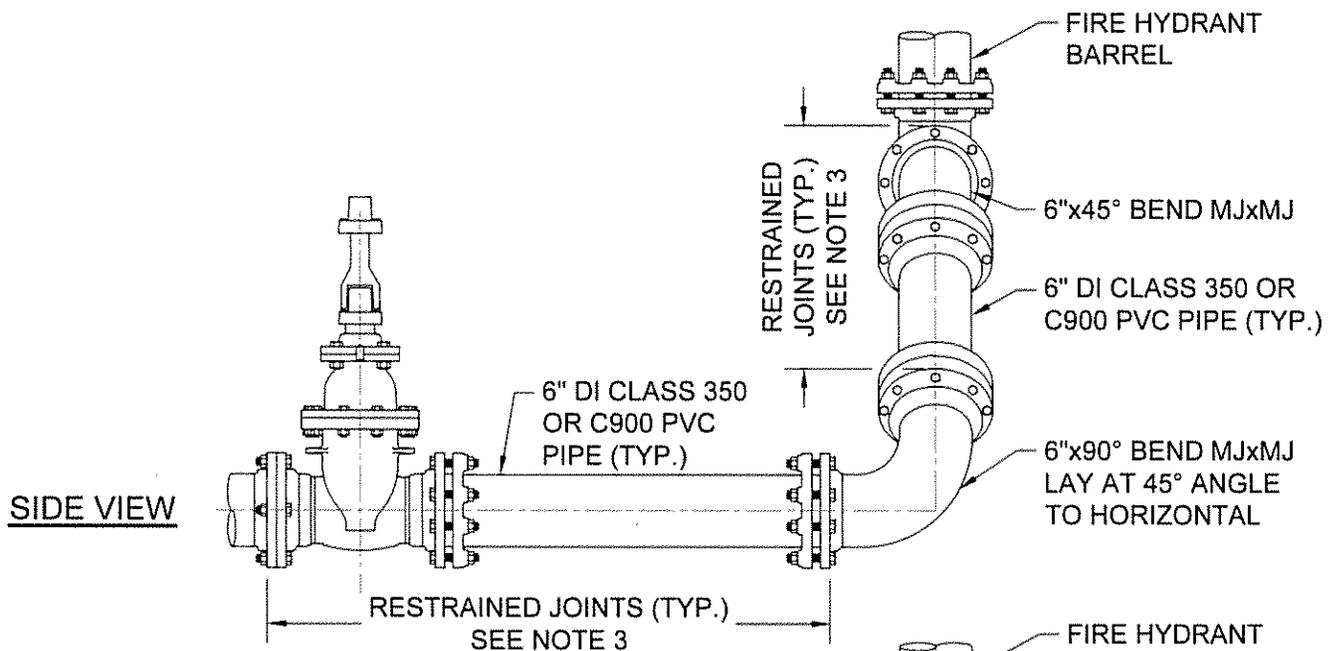
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RESPONSIBILITY FOR APPROPRIATE
USE OF THIS STANDARD.

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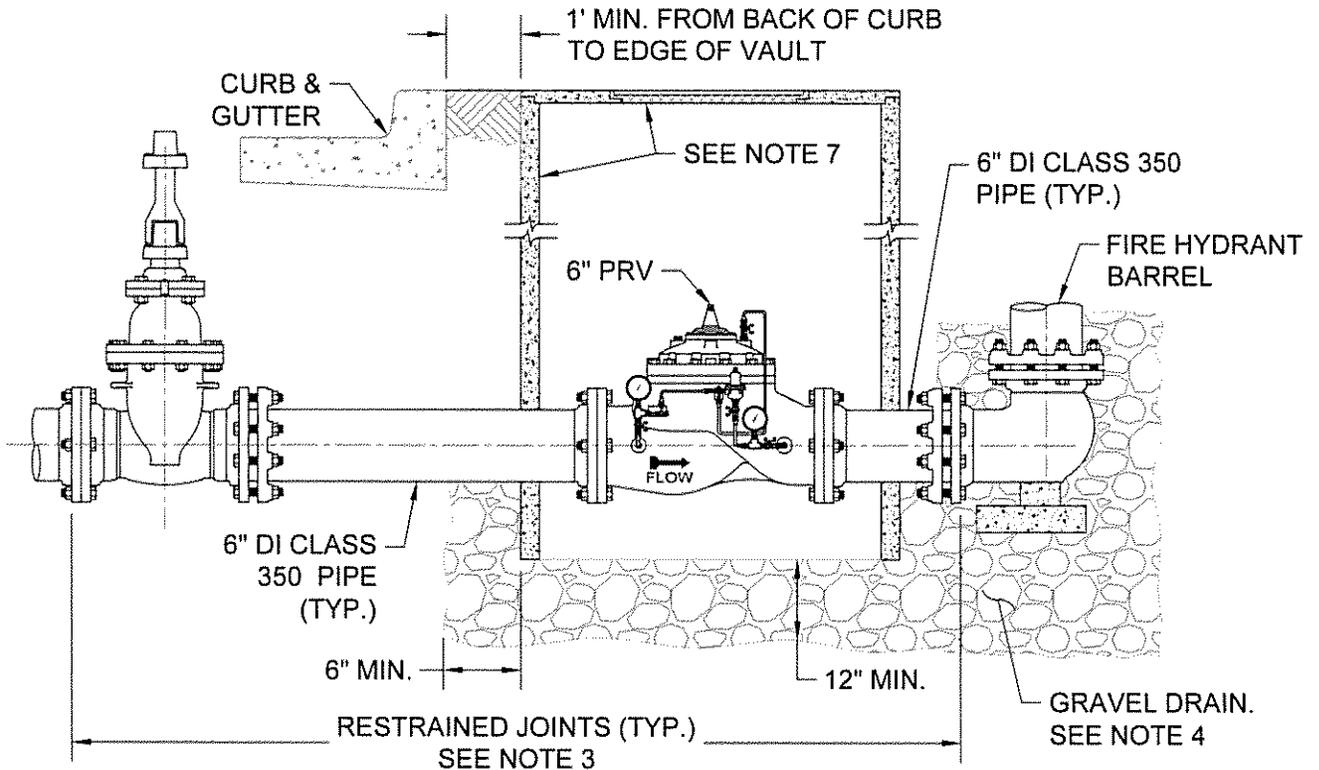


INSTALLATION ON DEEP WATER MAIN



INSTALLATION ON DEEP WATER MAIN WITH 90° BEND

CITY OF AUSTIN AUSTIN WATER		FIRE HYDRANT	
<i>Kathi L. Flowers</i>	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 2 OF 3

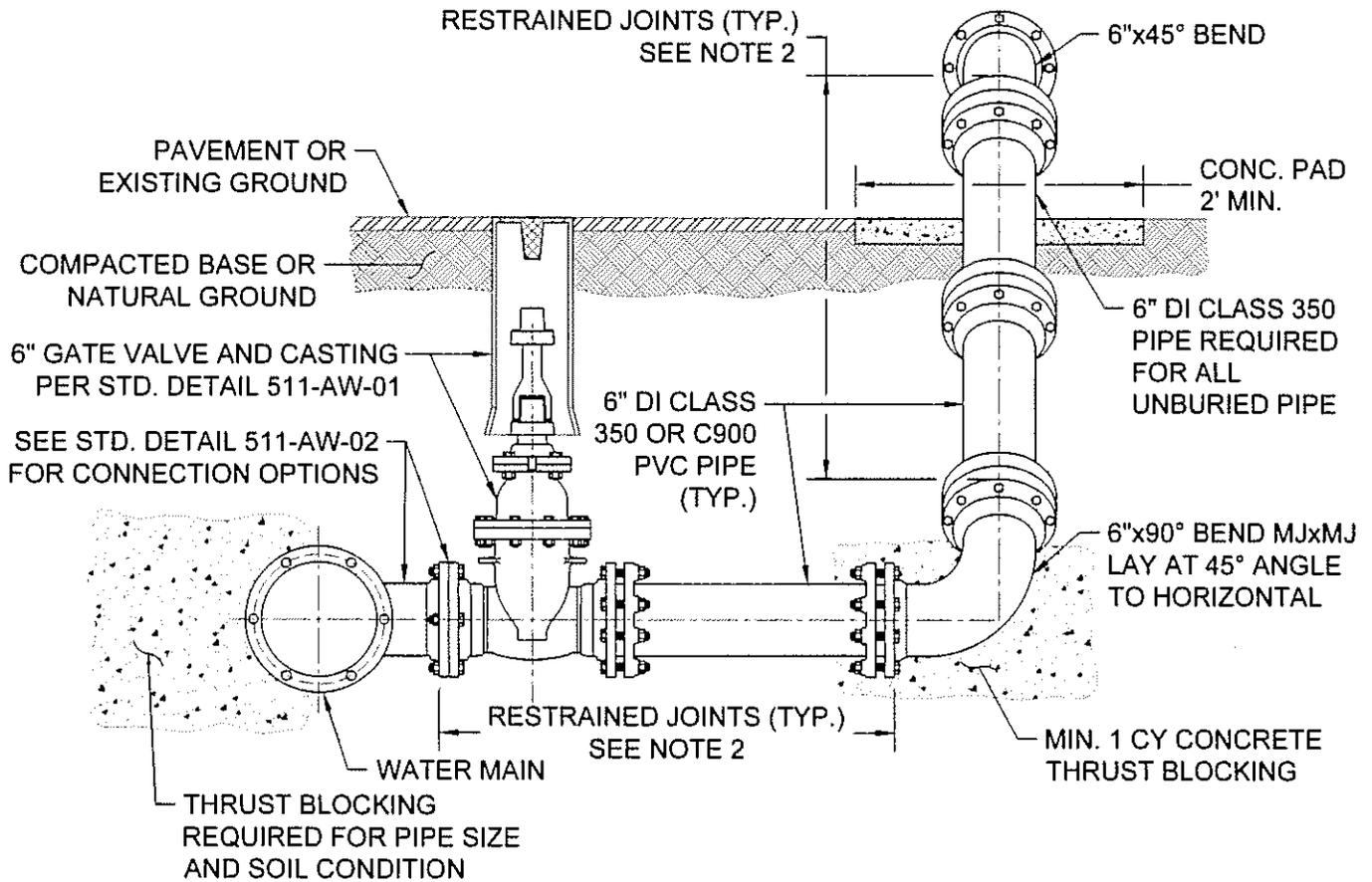


**INSTALLATION ON WATER MAIN WITH
PRESSURE REDUCING VALVE (PRV)**

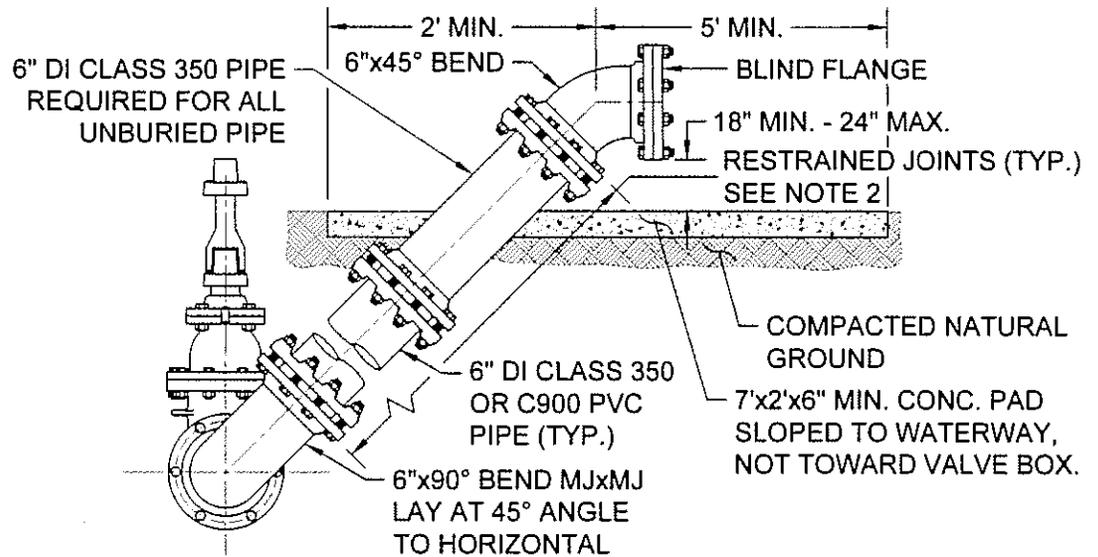
NOTES: APPLICABLE TO ALL INSTALLATION TYPES.

1. NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 6" OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 4' FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 4' - 5'. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 24" IN DIAMETER AND 12" DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 12" ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S. FOR PRV, GRAVEL SHALL EXTEND UNDER THE PRV VAULT 12" MIN. DEPTH UNDER THE VAULT AND 6" MIN. BEYOND VAULT.
5. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 6" DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
6. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
7. FOR HYDRANTS WITH PRV: CLASS III RCP VAULT 60" MIN. I.D. WITH REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING) WITH COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.

CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT	
<i>Kathi L. Flowers</i> 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 3 OF 3



SIDE VIEW

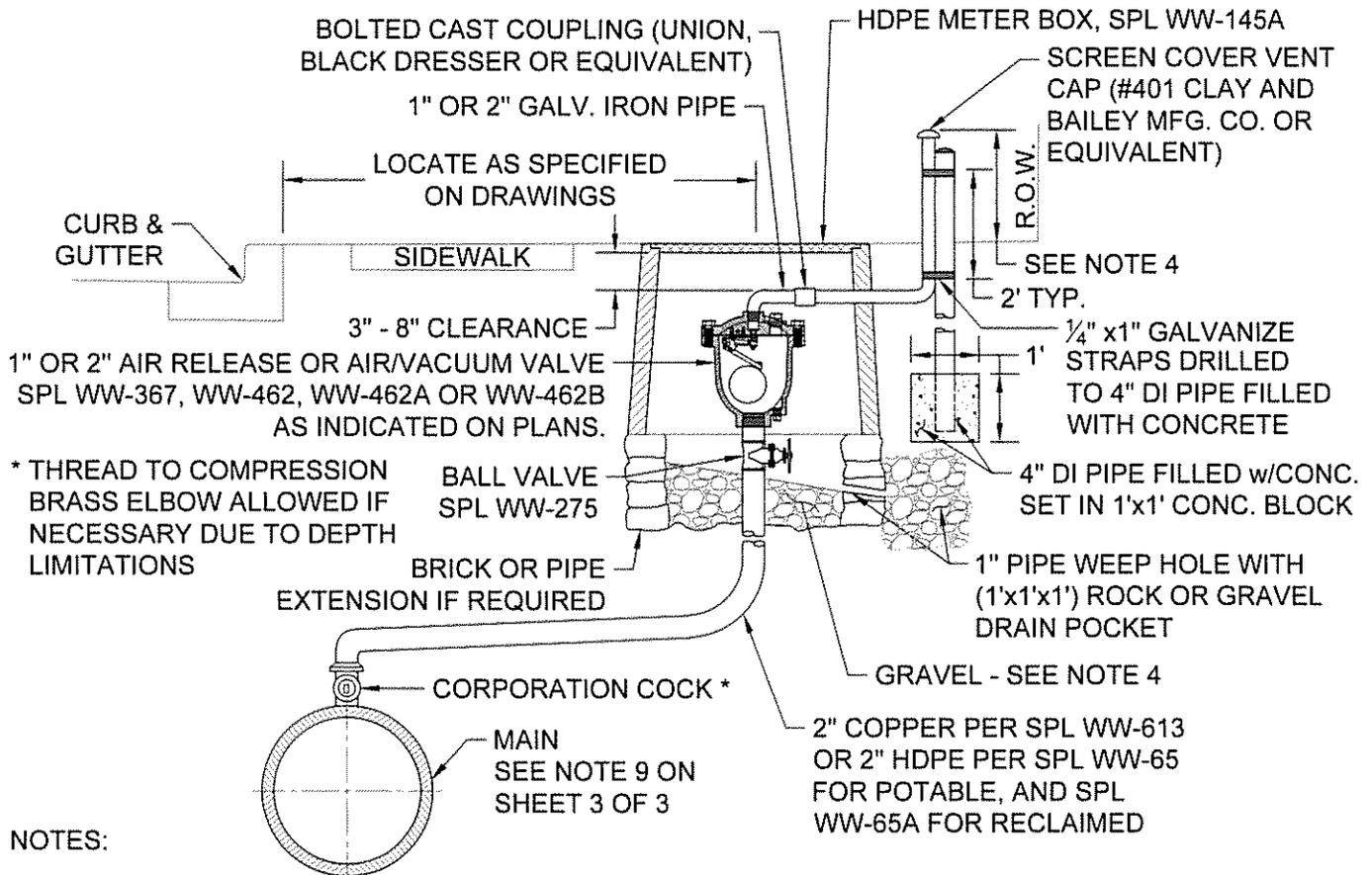


BACK VIEW

NOTES:

1. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
2. PROVIDE RESTRAINED JOINTS FOR ALL JOINTS PER SPL WW-27A. FLGxFLG JOINTS ARE ACCEPTABLE FROM 90° BEND TO BLIND FLANGE.
3. EXTERIOR SURFACES OF EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.

CITY OF AUSTIN AUSTIN WATER	DRAIN VALVE	
<i>Kathi L. Flowers</i> 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-03 1 OF 1



NOTES:

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND DI SUPPORT PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.
2. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH MINIMUM CLEARANCE OF 18" FROM ANY OBSTACLE.
3. HDPE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED WITH LINKSEAL LS 300 OR APPROVED EQUAL.
4. COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH SAND SLOPED TO DRAIN.
5. IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4' MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 8" - 12" IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
6. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE WATER MAIN. AIR VALVE PIPING, FROM THE WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.

1" - 2" AIR RELEASE OR AIR/VACUUM VALVE INSTALLATION - TYPE I

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

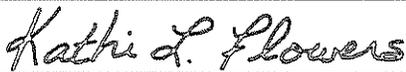
CITY OF AUSTIN AUSTIN WATER		AIR RELEASE AND AIR/VACUUM VALVE	
<i>Kathi L. Flowers</i>		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-04 1 OF 3
05/18/2016 ADOPTED			

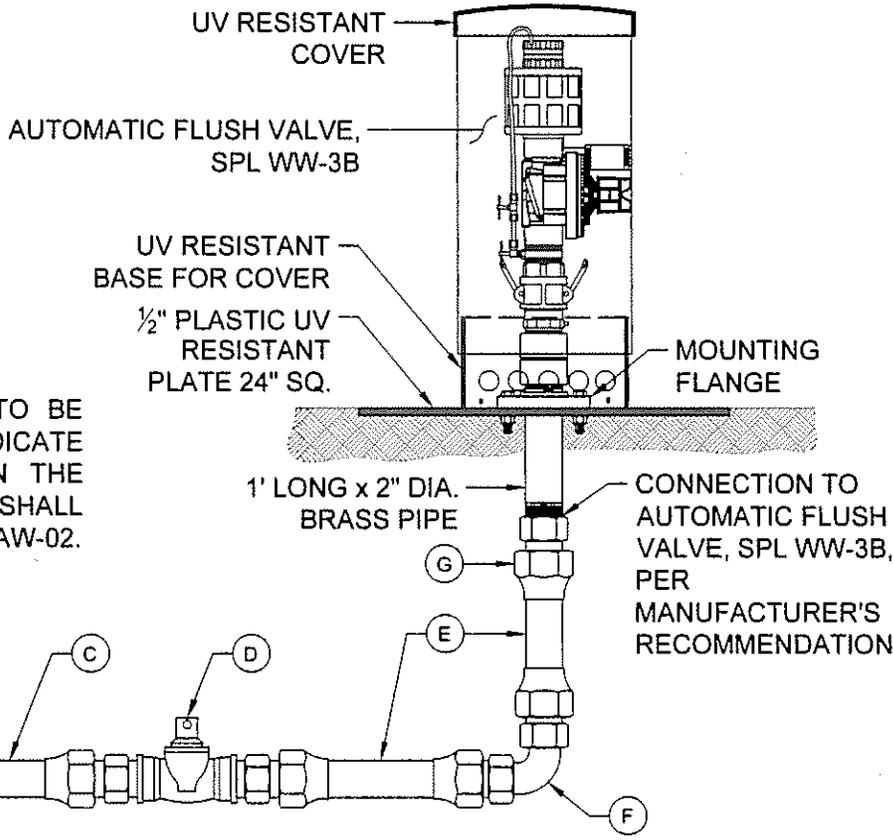
NOTES:

1. ON 10" AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 6" AND LARGER SHALL BE DI (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED W/LINKSEAL LS 300 OR APPROVED EQUAL.
5. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
6. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
7. IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4' MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
8. GATE VALVE, PIPE, AND FITTINGS FROM MAIN TO ARV SHALL BE OF EQUAL DIAMETER AS THE AIR VALVE EXCEPT 3" ARV SHALL HAVE 4" FITTINGS AND A 4"x3" REDUCER AT THE ARV, AND ALL PIPE AND FITTINGS ON THE OUTLET SIDE OF THE ARV SHALL BE EQUAL TO THE SIZE OF THE OUTLET OF THE ARV. VAULTS SHALL BE 5' DIAMETER FOR 3" VALVE; 6' DIAMETER FOR 4", 6", AND 8" VALVES; AND 7' DIAMETER FOR 10" AND 12" VALVES.
9. FOR 24" AND LARGER MAINS, AN 18" OUTLET WITH BLIND FLANGE SHALL BE INSTALLED AT CONNECTION OF ARV.

3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II

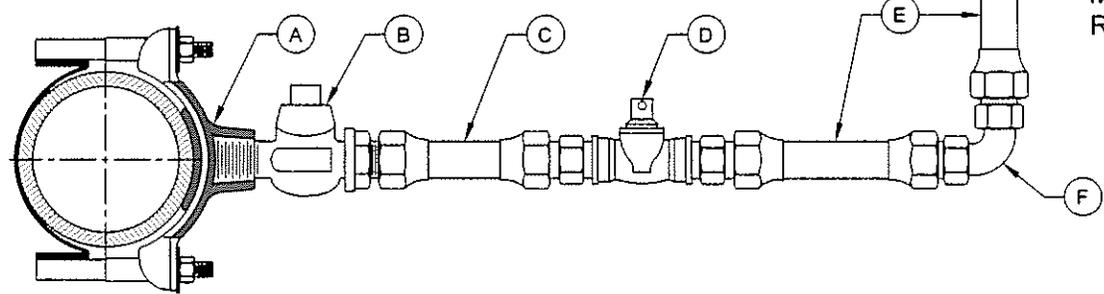
RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER		AIR RELEASE AND AIR/VACUUM VALVE	
 <u>Kathi L. Flowers</u>	<u>05/18/2016</u> ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-04 3 OF 3



NOTE:

IF FLUSH VALVE IS REQUIRED TO BE METERED, ENGINEER SHALL INDICATE METER SIZE AND LOCATION ON THE PLANS AND METER INSTALLATION SHALL BE AS PER STANDARD DETAIL 520-AW-02.

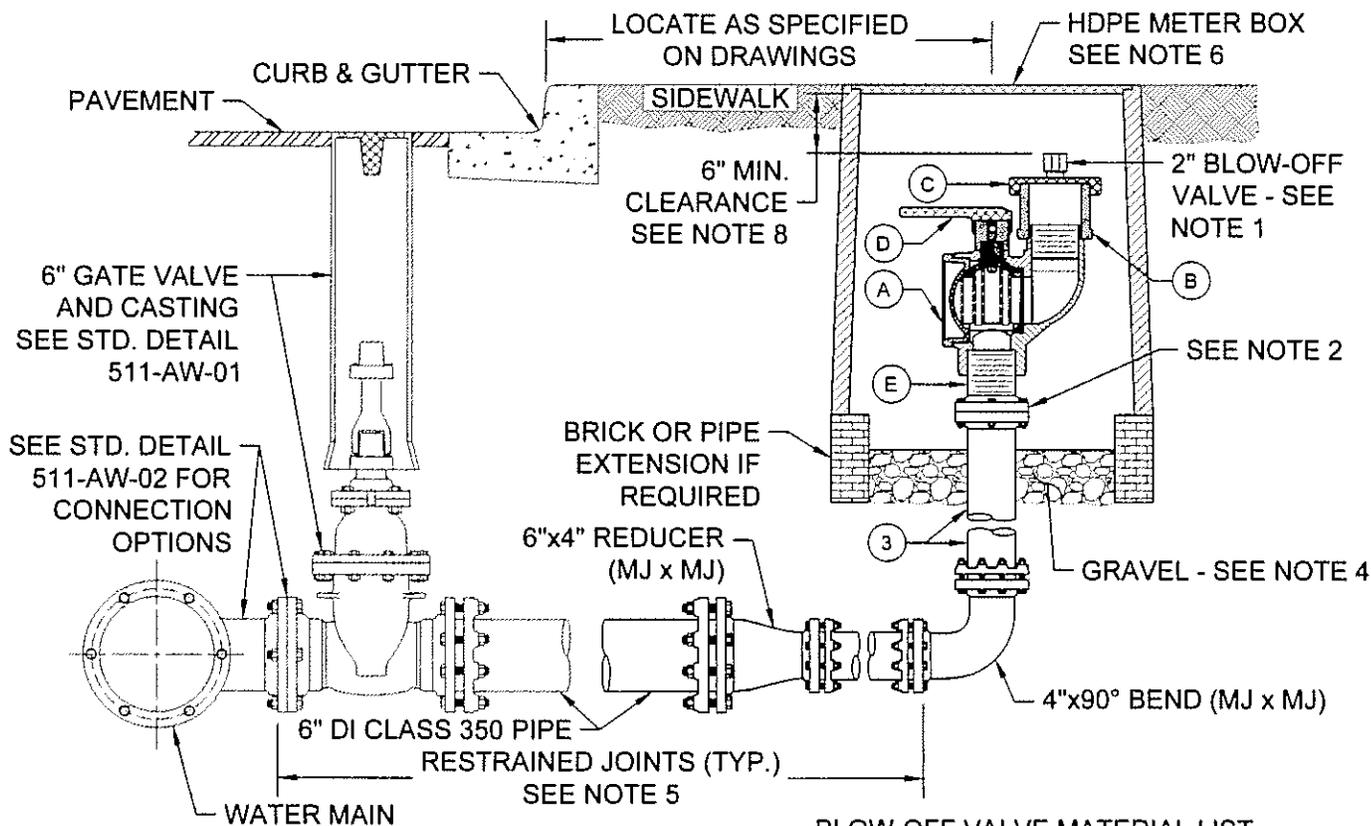


- A. 2" SERVICE CLAMP
- B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
- C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
- D. BALL VALVE, SPL WW-275 (SIZE EQUAL TO "E")
- E. 2" COPPER TUBING PER SPL WW-613 OR 2" HDPE PER SPL WW-65 FOR POTABLE AND PER SPL WW-65A FOR RECLAIMED
- F. 2" BRASS 90° BEND, COMPRESSION x COMPRESSION OR HDPE WITH STIFFENERS PER SPL WW-65B AT ALL CONNECTIONS
- G. 2" BRASS COUPLING, COMPRESSION x FIP

NOTES:

1. AUTOMATIC FLUSH VALVE MAY ALSO BE USED ON TAPPED PLUGS AND CAPS.
2. THE CONTRACTOR SHALL PROVIDE THE FLUSH VALVE ACCESS KEY TO AUSTIN WATER UPON FLUSH VALVE ACCEPTANCE.
3. VALVE "D" SHALL NOT BE LOCATED MORE THAN 36" BELOW FLUSH VALVE OR MORE THAN 24" HORIZONTALLY FROM FLUSH VALVE. VALVE "D" SHALL NOT BE LOCATED IN A SIDEWALK OR DRIVEWAY.
4. METER BOX (IF REQUIRED) AND FLUSH VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY. TEMPORARY FLUSH VALVES SHALL BE LOCATED AS SHOWN ON APPROVED PLANS.
5. A DRAINAGE WAY, CONTAINED WITHIN THE R.O.W. OR AN EASEMENT, SHALL BE PROVIDED FROM FLUSH VALVE TO STORM SEWER SYSTEM OR PUBLIC DRAINAGE WAY.
6. DESIGN ENGINEER SHALL PROVIDE CALCULATIONS WITH PLANS AT THE TIME OF REVIEW INCLUDING FREQUENCY AND FLUSH RATE REQUIRED TO CIRCULATE WATER IN DEAD END MAIN EVERY 72 HOURS.

CITY OF AUSTIN AUSTIN WATER	AUTOMATIC FLUSH VALVE	
<i>Kathi L. Flowers</i> _____ 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-05 1 OF 1



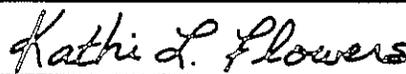
BLOW-OFF VALVE MATERIAL LIST

ITEM #	DESCRIPTION
A	ASSY, 2" OFFSET BALL VALVE 2FIP x 2MIP
B	ADAPTER 2" FEMALE NPT x 2 1/2" MALE NHT
C	CAP, 2 1/2" NHT PIN LUG, PAINTED PURPLE
D	LEVER HANDLE, PAINTED PURPLE
E	2" NIPPLE 4" LONG

NOTES:

1. 2" BLOW-OFF VALVE FOR RECLAIMED WATER PER SPL WW-3A.
2. 2"x9" 125# REDUCING COMPANION FLANGE (MANUFACTURED BY SMITH-COOPER INTERNATIONAL OR EQUIVALENT.)
3. 4" DI CLASS 350 PIPE (PE x FLG).
4. 6" MIN. DEPTH COMPACTED COARSE GRAVEL OR BROKEN STONE.
5. BLOW-OFF VALVE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO BLOW-OFF VALVE. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
6. HDPE METER BOX SHALL BE RECTANGULAR, COMMERCIAL METER BOX FOR RECLAIMED WATER PER SPL WW-145A.
7. METER BOX AND BLOW-OFF VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY. BLOW-OFF VALVES SHALL BE LOCATED AS SHOWN ON APPROVED PLANS.
8. BLOW-OFF VALVE MUST BE FREE TO MOVE VERTICALLY WITHIN THE METER BOX, IN ORDER TO PREVENT THE TRANSMISSION LOADS TO THE BLOW-OFF VALVE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	2" NON - TRAFFIC RATED, RECLAIMED BLOW-OFF VALVE
 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.
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